The University of North Carolina at Wilmington

BULLETIN 32
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Announcements 1980-81

The University of North Carolina at Wilmington 1980

WILMINGTON, NORTH CAROLINA 28406

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DEC

CALENDAR OF EVENTS
1980-81

Summer Session 1st 1980

May 25, Sunday	Residence halls open
May 27, Tuesday	Registration
May 28, Wednesday	Classes begin, last day for registration
May 30, Friday	Last day to drop or add without a grade
June 27, Friday	Graduation application deadline — Fall 1980
June 27, Friday	Final exams First term ends

Summer Session 2nd 1980

July 6, Sunday	Residence halls open
July 7, Monday	Registration
July 8, Tuesday	Classes begin, last day for registration
July 10, Thursday	Last day to drop or add without a grade
August 8, Friday	Final exams Second term ends

Fall Semester, 1980

August 24, Sunday	Residence halls open
August 25, Monday	Orientation and advising
August 26, Tuesday	Registration
August 27, Wednesday	Classes begin
September 1, Monday	Labor Day holiday
September 3, Wednesday	Last day for registration
September 3, Wednesday	Last day to drop or add without a grade
September 18, Thursday	Faculty meeting
October 10, Friday	Fall vacation begins 10:30 p.m.
October 15, Wednesday	Fall vacation ends 8:30 a.m.
October 27, Monday	Graduation application deadline — Spring 1981
November 13, Thursday	Last day to withdraw with WP or WF
November 26, Wednesday	Thanksgiving vacation begins 10:30 p.m.
December 1, Monday	Thanksgiving vacation ends 8:30 a.m.
December 9, Tuesday	Last day of classes
December 10-12, Wednesday-Friday	Final exams
December 15-18, Monday-Thursday	Final Exams
December 18, Thursday	Fall semester ends

Spring Semester, 1981

January 4, Sunday	Residence halls open
January 5, Monday	Registration
January 6, Tuesday	Classes begin
January 12, Monday	Last day for registration
January 12, Monday	Last day to drop or add without a grade
March 6, Friday	Spring holidays begin 10:30 p.m.
March 16, Monday	Spring holidays end 8:30 a.m.
March 27, Friday	Graduation application deadline — Summer 1981
April 3, Friday	Last day to withdraw with WP or WF
April 16, Thursday	Easter vacation begins 10:30 p.m.
April 21, Tuesday	Easter vacation ends 8:30 a.m.
April 23, Thursday	Faculty meeting
April 29, Wednesday	Last day of classes
April 30, May 1, Thursday-Friday	Final exams
May 4-8, Monday — Friday	Final exams
May 8, Friday	Spring semester ends
May 16, Saturday	Commencement

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ADMINISTRATIVE OFFICERS AND STAFF OF THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

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Roy E. Harkin, Ph.D., *Dean, School of Education*
Ralph H. Parker, M.Ed., *Dean of Admissions*
Douglas L. Johnson, B.S., *Assistant to the Dean of Admissions*
W. Frank Bowen, M.A.Ed., *Admissions Counselor*
Dorothy P. Marshall, B.S., *Registrar*
L. Murrie Lee, M.A.Ed., *Associate Registrar*
James C. Edmundson, Ed.D., *Director of Special Programs*
Isabell L. Foushee, M.A., *Assistant Director of Special Programs*
Donald B. Trivette, B.E.D., *Director of Educational Computing Services*
Ralph W. Brauer, Ph.D., *Director of Institute for Marine Biomedical Research*
Eugene W. Huguelet, M.L.S., *Director of Library Services*

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Helena R. Cheek, M.A., *Dean of Students*

Sandra A. Harkin, M.A., *Director of Career Planning and Placement*
Darwin R. Newton, Ed.D., *Director of Counseling and Testing*
Joseph V. Capell, M.Div., *Director of Financial Aid*
Linda Moore, M.Ed., *Director of Student Union/Activities*
Stephen Gnadt, M.Ed., *Program Coordinator*
Michael D. Mitchell, *Coordinator of Veteran Affairs*
Daniel Gottovi, M.D., *University Physician*
Linda Jasinski, F.N.P., *University Nurse*
Catherine Vangellow, P.A., *University Nurse*

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J. Carl Dempsey, M.Ed., *Assistant to the Vice Chancellor for Business Affairs*
Robert O. Walton Jr., B.A., *Director of Financial Services*
Timothy Jordan, M.B.A., *Assistant Director of Financial Services*
Charles L. Sanders III, *Director of Purchasing Services*
Eleanor R. Poole, M.Ed., *Director of Personnel Services*
Davis B. Lumpkin, P.E., *Director of Physical Plant Services*
Charles N. Long, Chief of Security Services
James K. Clark, B.A., *Director of Business Services*
Charles W. King, M.A., *Director of Housing & Food Services*
Alfred Barry, M.S., *Safety Officer*

SUPPORTING SERVICES

William J. Brooks M.S., *Director of Athletics*
Gwendolyn Culbreth, B.A., *Director of Information Services*
Robert E. Fry, M.S.P.H., *Director of Institutional Research*
Tyrone Rowell, M.A., *Director of Development*

THE UNIVERSITY

THE UNIVERSITY OF NORTH CAROLINA

Sixteen Constituent Institutions

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ROY CARROLL, B.A., M.A., Ph.D., *Vice President – Planning*
RAYMOND HOWARD DAWSON, B.A., M.A., Ph.D., *Vice President – Academic Affairs*
L. FELIX JOYNER, A.B., *Vice President – Finance*
DONALD J. STEDMAN, B.A., M.A., Ph.D., *Acting Vice President – Research and Public Service Programs and Associate Vice President – Academic Affairs*
CLEON FRANKLYN THOMPSON, B.S., M.S., Ph.D., *Vice President – Student Services and Special Programs*
GEORGE ELDRIDGE BAIR, B.A., M.A., Ph.D., *Director of Educational Television*
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KENNIS R. GROGAN, B.S., M.B.A., *Associate Vice President – Finance*
JAMES L. JENKINS, JR., A.B., *Assistant to the President*
JOHN P. KENNEDY, JR., S.B., B.A., M.A., J.D., *Secretary of the University*
ARNOLD KIMSEY KING, A.B., A.M., Ph.D., *Assistant to the President*
ROSCOE D. MCMILLAN, JR., B.S., *Assistant to the President for Governmental Affairs*
JEANNE MARGARET MCNALLY, B.S.N., M.A., Ph.D., *Associate Vice President – Academic Affairs*
RICHARD H. ROBINSON, JR., A.B., LL.B., *Assistant to the President*
ROBERT W. WILLIAMS, A.B., M.A., Ph.D., *Associate Vice President – Academic Affairs*

The University of North Carolina was chartered in 1789 and opened its doors to students at its Chapel Hill campus in 1795. Throughout most of its history, it has been governed by a Board of Trustees chosen by the Legislature and presided over by the Governor. During the period 1917-1972, the Board consisted of one hundred elected members and a varying number of *ex-officio* members.

By act of the General Assembly of 1931, without change of name, the University was merged with The North Carolina College for Women at Greensboro and The North Carolina State College of Agriculture and Engineering at Raleigh to form a multicampus institution designated The University of North Carolina.

In 1963 the General Assembly changed the name of the campus at Chapel Hill to The University of North Carolina at Chapel Hill and that at Greensboro to The University of North Carolina at Greensboro and, in 1965, the name of the campus at Raleigh was changed to North Carolina State University at Raleigh.

Charlotte College was added as The University of North Carolina at Charlotte in 1965; and, in 1969, Asheville-Biltmore College and Wilmington College became The University of North Carolina at Asheville and The University of North Carolina at Wilmington respectively.

A revision of the North Carolina State Constitution adopted in November 1970 included the following: "The General Assembly shall maintain a public system of higher education, comprising The University of North Carolina and such other institutions of higher education as the General Assembly may deem wise. The General Assembly shall provide for the selection of trustees of The University of North Carolina. . . ." In slightly different language, this provision had been in the Constitution since 1868.

On October 30, 1971, the General Assembly in special session merged, without changing their names, the remaining ten state-supported senior institutions into the University as follows: Appalachian State University, East Carolina University, Elizabeth City State University, Fayetteville State University, North Carolina Agricultural and Technical State University, North Carolina Central University, North Carolina School of the Arts, Pembroke State University, Western Carolina University, and Winston-Salem State University. This merger, which resulted in a statewide multicampus university of sixteen constituent institutions, became effective on July 1, 1972.

The constitutionally authorized Board of Trustees was designated the Board of Governors, and the number was reduced to thirty-two members elected by the General Assembly, with authority to choose their own chairman and other officers. The Board is "responsible for the general determination, control, supervision, management, and governance of all affairs of the constituent institutions." Each constituent institution, however, has its own board of trustees of thirteen members, eight of whom are appointed by the Board of Governors, four by the Governor, and one of whom, the elected president of the student body, serves *ex of-*

ficio. The principal powers of each institutional board are exercised under a delegation from the Board of Governors.

Each institution has its own faculty and student body, and each is headed by a chancellor as its chief administrative officer. Unified general policy and appropriate allocation of function are effected by the Board of Governors and by the President with the assistance of other administrative officers of the University. The General Administration office is located in Chapel Hill.

The chancellors of the constituent institutions are responsible to the President as the chief administrative and executive officer of The University of North Carolina.

BOARD OF GOVERNORS
THE UNIVERSITY OF NORTH CAROLINA

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Mrs. Howard Holderness, Vice Chairman
E.B. Turner, Secretary

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Philip G. Carson, Asheville
T. Worth Coltrane, Asheboro
George Watts Hill, Durham
Jack O'Kelley, Burlington
Mrs. Hugh Morton, Linville
David J. Whichard, II, Greenville
[1 vacancy]

Class of 1983

Irwin Belk, Charlotte
Wayne Corpening, Winston-Salem
Daniel C. Gunter, Gastonia
Mrs. Howard Holderness, Greensboro
John R. Jordan, Jr., Raleigh
J. Aaron Prevost, Hazelwood
Louis T. Randolph, Washington
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Class of 1987

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Jacob H. Froelich, Jr., High Point
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William A. Johnson, Lillington
Robert L. Jones, Raleigh
E.B. Turner, Lumberton

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George R. Little, Jr., Vice Chairman
Mrs. Roi M. Penton, Secretary

Class of 1981

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Addison Hewlett, Jr.
William L. Hill, II
George R. Little, Jr.
Mrs. Roi M. Penton
Mrs. Jacqueline C. Morris-Goodson

Class of 1983

Dr. John T. Dees
Eugene B. Hardin, Jr.
William B. Humphrey
Mrs. Ellen S. Newbold
Harold G. Troy, Sr.
John D. Warlick, Jr.

Ex officio: President of the Student Government Association (Elected each year)

THE UNIVERSITY OF NORTH CAROLINA AT WILMINGTON

The University of North Carolina at Wilmington was founded in 1947 as Wilmington College, a locally supported and governed institution, to provide the youth and adults of New Hanover County and southeastern North Carolina an opportunity for two years of university parallel study, semiprofessional training and vocational-technical education at moderate expense. From these beginnings and goals and through a series of transformations with ever widening programs and aspirations, the institution has become a part of The University of North Carolina, whose purpose, resources and direction it shares.

The University at Wilmington is a community of scholars dedicated to teaching, learning and creating, and to extending knowledge through research. Its objective is to stimulate a creative spirit, to fire imagination, to promote curiosity and to teach students to make valid judgments concerning activities and values as well as to think with clarity and to communicate with fluency and accuracy in the realms of empirical facts and abstract ideas.

The programs offered by the University are designed to serve a broad spectrum of abilities and interests in the liberal arts and sciences. To implement these programs, most of which lead to the baccalaureate degree, the University provides undergraduate instruction and research opportunities in fine arts, humanities, natural sciences, social sciences, teacher education and other professional disciplines. Moreover, the geographical location of the University at Wilmington, the only campus of The University of North Carolina adjacent to the ocean, in a region rich in history and yet modern in industrial development, provides a challenge to be innovative. As the University progresses, its special environment as well as the needs of its constituency will play a major part in the development in scope and depth of established programs and in the initiation of new ones.

HISTORY AND BACKGROUND

Education on the college level first came to Wilmington in 1946 when a college center was established under the direction of the North Carolina College Conference and under the administration of the Directorate of Extension of The University of North Carolina at Chapel Hill. The center offered courses on the freshman level to some 250 students during the academic year 1946-47. In 1947 a tax levy was approved by the citizens of New Hanover County, and Wilmington College was brought into existence as a county institution under the control of the New Hanover County Board of Educa-

tion. In 1948 Wilmington College was officially accredited by the North Carolina College Conference and became a member of the American Association of Junior Colleges. In 1952 the institution was accredited as a junior college by the Southern Association of Colleges and Schools.

In 1958 New Hanover County voted to place the college under the Community College Act of the State of North Carolina. By virtue of this vote, the college became a part of the state system of higher education, and control passed from the New Hanover County Board of Education to a board of twelve trustees, eight of whom were appointed locally and four of whom were appointed by the governor of the state. At the same time, the requirements for admission and graduation and the general academic standards of the college came under the supervision of the North Carolina Board of Higher Education, and the college began to receive an appropriation from the state for operating expenses in addition to the local tax.

On July 1, 1963, by an act of the General Assembly of North Carolina, Wilmington College became a senior college with a four-year curriculum, authorized to offer the bachelor's degree.

By vote of the Board of Trustees of The University of North Carolina in late 1968, with subsequent approval by the North Carolina Board of Higher Education, and by an act of the General Assembly of North Carolina in 1969, Wilmington College became, on July 1, 1969, The University of North Carolina at Wilmington. It, and the institution in Asheville previously designated as Asheville-Biltmore College, became the fifth and sixth campuses of The University of North Carolina.

On October 30, 1971, the General Assembly in special session merged, without changing their names, the remaining ten state-supported senior institutions into the university. Thus The University of North Carolina now comprises sixteen institutions.

On August 22, 1977, the Board of Governors of The University of North Carolina authorized The University of North Carolina at Wilmington to offer its first graduate programs at the master's level.

ACADEMIC STANDING

The University of North Carolina at Wilmington is accredited by the Southern Association of Colleges and Schools and the North Carolina Association of Colleges and Universities. It also holds membership in the American Assembly of Collegiate Schools of Business, the American Council on Education, the American Placement Council, and the Council for Advancement and Support

of Education, and is on the list of schools approved by the American Chemical Society.

THE FACULTY

The University seeks to attract and maintain a faculty of outstanding individuals who are capable of contributing to the enrichment of its diverse and comprehensive instructional and research programs. Its faculty members come from all geographic sections of the United States and several foreign countries, bringing to this campus a rich variety of educational experiences, training and scholarship. Of the more than 250 instructional and research faculty, more than 65% hold doctoral degrees.

In addition to its primary responsibility of teaching, the faculty actively engages in research and creative pursuits. Research interests are widespread in the various disciplines within the humanities, natural, physical, behavioral, and social sciences, and the professions. One of the major areas of interest is the marine sciences in which extensive research is conducted in such fields as marine biology, chemical and physical oceanography, and coastal environments. Many of these research activities culminate in the publication of books and scholarly articles and presentation of papers at professional associations, bringing acclaim to the University as well as the faculty. Certain other faculty members are widely recognized for their outstanding achievements in the literary, visual, and performing arts.

As an outgrowth of their professional training and/or University affiliation, UNC-W faculty members serve the community at large in various ways. Many participate in artistic, business, educational, governmental, religious and other professional and humanitarian activities. Inasmuch as the University is dedicated to serving its total constituency, faculty members are encouraged to serve in an educational advisory or informational capacity to enhance the welfare of the community at large.

BOARD OF TRUSTEES' TEACHING EXCELLENCE AWARD

The Board of Trustees of The University of North Carolina at Wilmington, taking note of this institution's commitment to teaching excellence, has established the Board of Trustees' Teaching Excellence Award. Recipients of the award manifest excellence as a way of life and stand out among the faculty as persons who have made and continue to make a significant contribution to higher education through their dedication and service to students. The award carries with it both an honor and a responsibility: it specifies

a member of the faculty as a person of excellence and it calls upon the person so honored to share that excellence with colleagues and students.

THE FOUNDATION CHAIR

The Foundation of The University of North Carolina at Wilmington is a charitable, non-profit corporation established for the sole purpose of supporting the University. Through private donations it supports a faculty Chair, designed to assist the University in its long-range efforts concerning faculty development and recruitment. The Foundation Chair, which is currently allocated to the various academic disciplines on a rotating basis, enables the University to bring to this campus renowned scholars and performing artists. In filling the Chair a special effort is made to select individuals whose contributions will benefit not only the University, but also the community at large.

NOTE: For faculty directory see page 240.

THE CAMPUS

The University of North Carolina at Wilmington is located in the southeastern part of the state on a 600 acre tract on State Highway 132 (College Road) midway between the Cape Fear River and the Atlantic Ocean. The city of Wilmington is situated on the east bank of the Cape Fear River and is about 15 miles from Carolina Beach and 10 miles from Wrightsville Beach. The standard metropolitan area, of which Wilmington is a part, now has a population in excess of 97,400. Several main highways lead into the city, and commercial air service provides easy access to other metropolitan areas north, south, and west.

Ocean breezes and the nearness of the Gulf Stream give Wilmington a delightful year-round climate, and the area's proximity to the ocean provides unlimited recreational opportunities.

The spacious, well-landscaped campus was first occupied by the University in 1961. Today there are 24 buildings, plus athletic fields and ample parking areas.

BUILDINGS

The buildings on the campus are of modified Georgian architecture. All academic buildings, as well as the cafeteria and residence halls, are completely air-conditioned.

The Edwin A. Alderman Administration Building, named in honor of a native Wilmingtonian who served as president of The University of North Carolina, The University of Virginia and Tulane University, houses administrative offices.

Hoggard Hall, the academic building named in honor of Dr. John T. Hoggard, second president of Wilmington College, contains classrooms, the departments of Nursing, Political Science, and Sociology and Anthropology, laboratories, the computing center and faculty and staff offices.

Kenan Hall, named in honor of the late Mrs. Sarah Graham Kenan of Wilmington, is occupied by the Creative Arts Department and the Philosophy and Religion Department. It contains classrooms, faculty offices, art and music studios, the music library, an electronic music studio, dramatic workshops and the S.R.O. Theatre. It also contains an auditorium with a seating capacity of approximately 100.

The Chemistry-Physics Building houses the departments of Chemistry and Physics. It is equipped with classrooms, faculty and staff offices, teaching auditoriums, and modern, well-equipped laboratories for the physical sciences.

The Arnold Kimsey King Hall houses the School of Education and Department of Psychology and contains an auditorium with a seating capacity of 191, classrooms, faculty offices, and a curriculum laboratory.

The Isaac Bear Hall, completed in 1972, contains classrooms, a computer laboratory, and faculty offices for the School of Business Administration.

The Marine Science Building was completed in 1974. It houses the departments of Biology and Earth Sciences and contains classrooms and laboratories.

The Humanities Classroom Building was completed in October of 1978, and houses the departments of English, History, Mathematical Sciences, and Modern Languages. The building contains classrooms, seminar rooms, and a large auditorium.

The Sarah Graham Kenan Memorial Auditorium, a gift from the Sarah Graham Kenan Foundation, has a seating capacity of 1,000 persons. The auditorium is also equipped for use as a theatre and contains seminar rooms for the Department of Creative Arts.

Hanover Hall and Trask Coliseum, the physical education complex, provide modern facilities for the athletic activities of both men and women students, including a large playing floor with rollaway bleachers, a second athletic activity floor, offices, locker rooms and showers, and special gymnastic equipment.

The Raiford G. Trask Health and Physical Education Building provides the campus with a 6,000 seat coliseum as well as an olympic size swimming pool and a separate diving tank. Construction was completed in the fall of 1977.

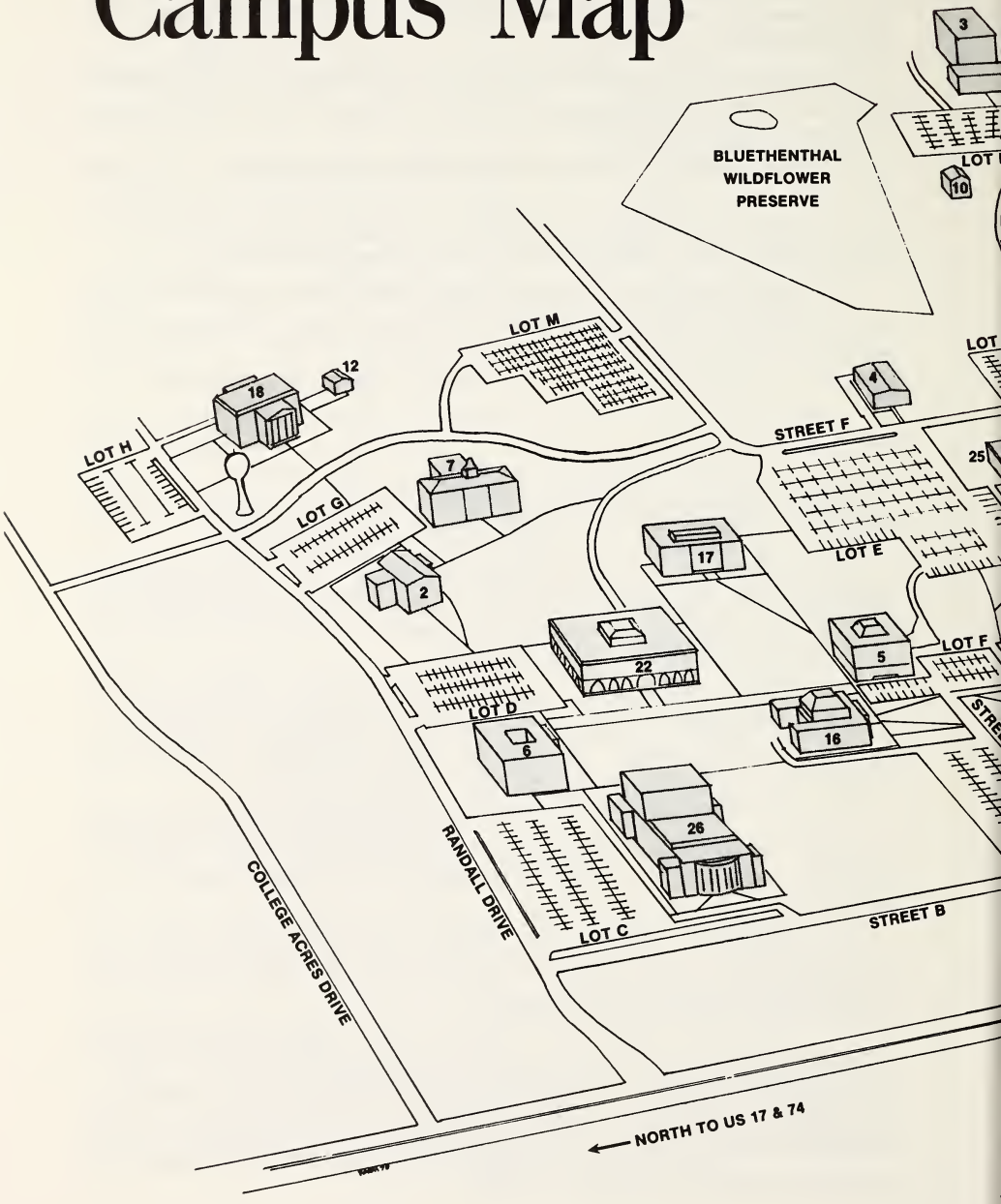
The Hinton James Student Services Building contains student lounges, an assembly room, and offices for student organizations. It was named for a New Hanover County resident who was the first student to enroll at The University of North Carolina.

The University Bookstore was completed and occupied in the fall of 1977. It is centrally located on campus and provides much larger quarters than the old location in the Hinton James Student Services Building.

The University Cafeteria, opened in 1971, provides space for food services for both students and faculty and contains the most modern food service equipment.

The Edmond R. Galloway Residence Hall, opened in 1971, provides housing for 400 students. The Belk Residence Hall, opened in June 1976, accommodates 200 students. The 200-student dormitory, Addison Hewlet, Jr., Hall, opened in the fall of 1978. Another residence hall for 200 additional students was completed and occupied in the fall semester of 1979.

Campus Map


BLUETHENTHAL
WILDFLOWER
PRESERVE
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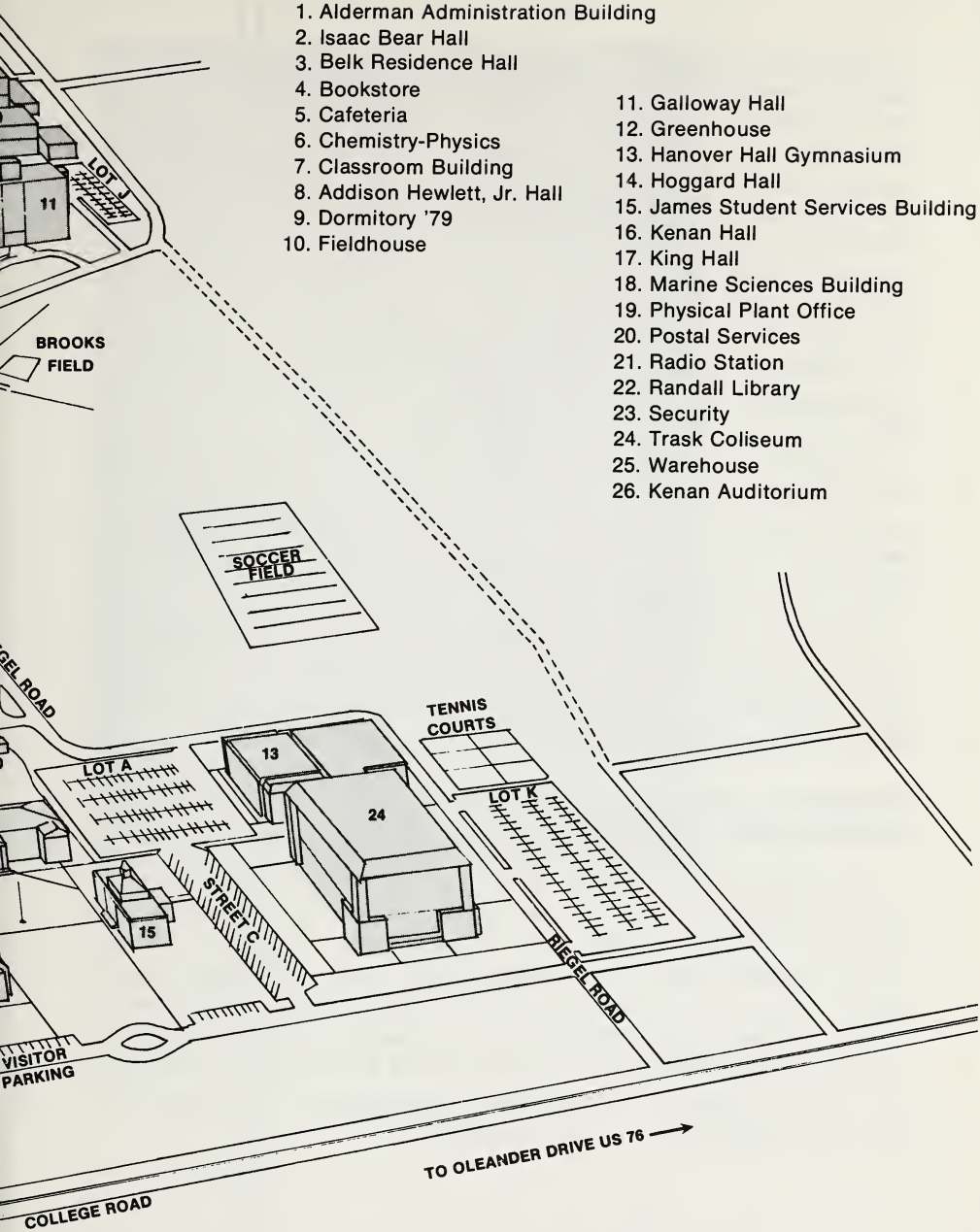
25
RANDALL DRIVE
COLLEGE ACRES DRIVE
NORTH TO US 17 & 74

LEGEND

1. Alderman Administration Building
2. Isaac Bear Hall
3. Belk Residence Hall
4. Bookstore
5. Cafeteria
6. Chemistry-Physics
7. Classroom Building
8. Addison Hewlett, Jr. Hall
9. Dormitory '79
10. Fieldhouse
11. Galloway Hall
12. Greenhouse
13. Hanover Hall Gymnasium
14. Hoggard Hall
15. James Student Services Building
16. Kenan Hall
17. King Hall
18. Marine Sciences Building
19. Physical Plant Office
20. Postal Services
21. Radio Station
22. Randall Library
23. Security
24. Trask Coliseum
25. Warehouse
26. Kenan Auditorium



The William Madison Randall Library, completed in January 1969, is named for the President Emeritus of Wilmington College. It has a seating capacity for more than 600 readers and space for 200,000 volumes. The library collection contains over 190,000 volumes shelved on open stacks according to the Library of Congress classification system. Rare and unique items are housed in the Helen Hagan Rare Book Room. Some 2,800 serial publications are regularly received, and extensive back files are maintained in bound volumes or microform. Coin operated machines for copying microforms and printed material are available.

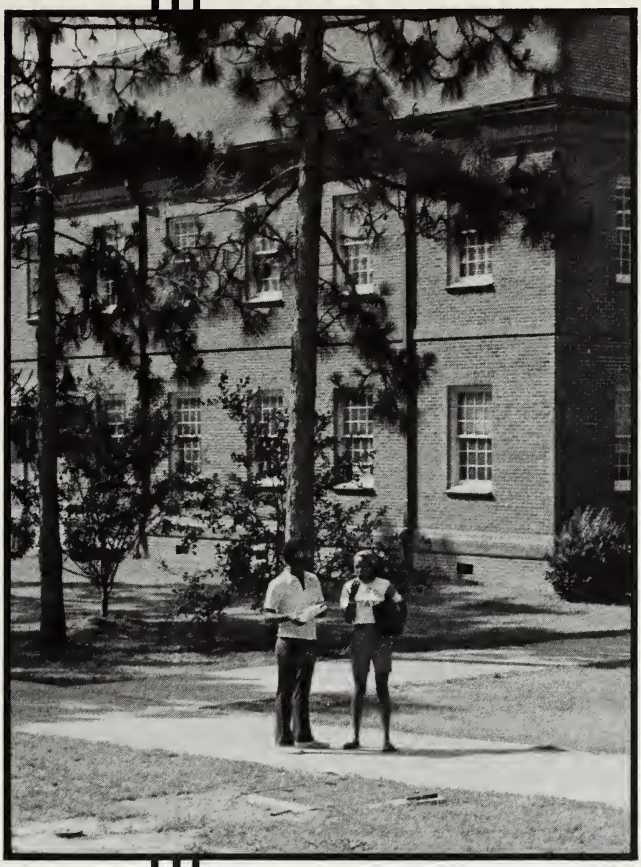
The Randall Library is a partial depository for United States government publications, and the collection of documents now consists of approximately 130,000 items.

An audio-center with 18 listening positions and a wide variety of recordings is available for class assignments and personal enjoyment. Two seminar rooms and a conference room are available for meetings of small groups, and a 70-seat auditorium is equipped for all types of audio-visual use. Lockers are provided for students doing honors work and other special projects.

The Library is open at least 90 hours per week during the two regular academic sessions; and librarians trained in reference service are available to provide information and reader guidance services to students and faculty.

HERBERT BLUETHENTHAL MEMORIAL WILDFLOWER PRESERVE

The Herbert Bluethenthal Memorial Wildflower Preserve is a tract of approximately 10 acres set aside on the campus by the University's Board of Trustees in response to a donation by Mrs. Herbert Bluethenthal of Wilmington. The Preserve includes a wide variety of plant communities, marked trails to follow, and labeled plants to observe. It is dedicated to the preservation of the rich and varied flora of southeastern North Carolina and has been designed to provide a place of contentment and pleasure for those who enjoy and appreciate our native plants.



ADMISSIONS

ADMISSIONS

The University of North Carolina at Wilmington seeks to admit students with the intellectual ability to perform in the collegiate community. However, the student must have the motivation and the determination to avail himself of the learning experiences that will be beneficial to him if he is to attain both academic and personal enrichment. As a state-supported institution, the University is aware of its obligation to provide an educational opportunity to all qualified applicants who will benefit from the program of study offered on the Wilmington campus.

Applicants may enter the University at the beginning of the fall and spring semesters and at the beginning of each summer term. Applications for fall semester should be filed by August 1; applications for spring semester should be filed by December 15. Students desiring to enroll in summer school should make application previous to the summer session registration period. The academic qualifications of each applicant are carefully reviewed by the admissions personnel in a conscientious effort to admit those students who have the potential for further achievement.

ADMISSIONS-FRESHMEN

The requirements for admission to The University of North Carolina at Wilmington are:

(1) Graduation from an approved or accredited high school
(2) A satisfactory score on the Scholastic Aptitude Test (SAT)
(3) An overall "C" average on all work attempted in grades 9-12
(4) The following specific high school units:
    4 units in English
    *2 units in one foreign language
    2 units in Mathematics (Algebra I and Geometry or Algebra II)
    2 units in Social Studies
    1 unit in Science

*Students who meet all minimum requirements except foreign language will be accepted with a deficiency and will be required to complete a foreign language sequence of 101 and 102 before they are graduated with the baccalaureate degree.

APPLICATION PROCEDURE FOR FRESHMEN

Students wishing to enroll are required to comply with the following procedures:

1. Submit a completed application form. A $10.00 (NON-REFUNDABLE) application fee must accompany the application.

2. Have the secondary school officials submit an official transcript of secondary school work. The transcript must be sent directly to the Office of Admissions, The University of North Carolina at Wilmington, P.O. Box 3725, Wilmington, North Carolina 28406.

3. Take the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board. Applicants must request that scores on this be sent to the Office of Admissions. Because of deadlines for filing application to take the College Board tests, arrangements must be made well in advance of the testing date so that the application may be received in Princeton or Berkeley by the closing date. Applicants are accepted on either junior or senior year SAT scores. For information about the SAT, the applicant should contact the secondary school guidance counselor or write or call College Board ATP, P.O. Box 592, Princeton, New Jersey 08540; (609) 921-9023. Students who live in the Western, Southwestern or Pacific Coast states should write or call College Board ATP, Box 1025, Berkeley, California 94701; (415) 849-0950.

It is important that high school credits and test scores reach the University early so that all correspondence relating to the application may be completed before the opening of the semester in which the student expects to register.

ADMISSIONS-TRANSFER

A student wishing to transfer to The University of North Carolina at Wilmington from another institution must meet the following requirements for admission: (1) he must be eligible to return to the institution last attended and (2) he must have attained at least a "C" average (4.0 system) based on all courses attempted at all institutions attended. Transfer students with less than 24 semester hours of transferable credit must also meet the freshman entrance requirements.

A student seeking admission by transfer of credits is required to have all transcripts of previous college or university records forwarded to the Dean of Admissions by the Registrar at each institution he has attended. Even though no transfer of credit may be involved, all previous college or university experience must be certified by transcripts or records of attendance.

APPLICATION PROCEDURE FOR TRANSFER STUDENTS

Students wishing to transfer are required to comply with the following procedures:

1. Submit a completed application form. A $10.00 (NON-REFUNDABLE) application fee must accompany the application.
2. Submit a completed University Questionnaire for transfer students. This Questionnaire is included in the transfer admissions packet.
3. Have an official transcript from each college or university attended, including summer school, submitted. It is the applicant's responsibility to request that each institution attended send an official transcript directly to the Office of Admissions. Transfer applicants who have completed fewer than 24 semester hours of transferable credit must also submit an official secondary school transcript and an official copy of the scores of the Scholastic Aptitude Test of the College Entrance Examination Board.

ADMISSIONS-ASSOCIATE DEGREE PROGRAM IN NURSING

Admission to the Associate Degree Program in Nursing requires, in addition to acceptance to the University, an interview with and approval by the Department of Nursing.

NOTIFICATION OF ACCEPTANCE

Applicants are notified of action taken on their application as soon as possible. However, final action cannot be taken until all required information is in the Office of Admissions.

ADMISSIONS-FORMER STUDENTS

Former UNC-W students desiring to return to the University should apply to the Dean of Admissions for readmission prior to August 1 for the fall semester or December 15 for the spring semester. A former student who has attended a college or university since his last enrollment at UNC-W is required to submit official transcripts of credit from such institutions before he can be considered for readmission.

THE THREE-YEAR RULE

Any UNC-Wilmington degree student who has been out of school for at least three years and has not attended any other institution since leaving UNC-W is eligible to reenter under the "three-year rule."

The student who elects to have the "three-year rule" applied will have neither a quality point deficit to overcome, nor hours of credit for those courses in which "D" grades were attained. Only courses in which a grade of "C" or better was earned will be counted

toward graduation. Nevertheless, this option will not alter the student's original academic record. The student's quality point average will begin at the time he resumes his studies. He will be required to maintain a "C" average on a semester basis to be eligible to continue. Degree requirements will be the requirements in effect at the time his education is resumed.

The student must exercise his option concerning the three-year rule at the time he applies for admission to the University. Once the student has exercised his option, he may not later reverse it.

Any former student of an accredited college or university who has not attended school for at least three years may apply to the Admissions Appeals Committee for admission under the three-year rule.

APPLICATION DATES

All students applying for admission or readmission to The University of North Carolina at Wilmington must file their Application for Admission or their Reenrollment Form by August 1 if enrolling for the fall semester and by December 15 if enrolling for the spring semester.

ADMISSIONS-UNCLASSIFIED STUDENTS

Individuals may enroll in the University as unclassified students by meeting the appropriate requirements for admission as stated below:

1. A transfer student who has not been enrolled in an institution of higher education for at least one year and who has not been academically suspended within the last three years may apply for admission as an unclassified student.
2. A high school graduate who has not attended an institution of higher education and has been graduated at least two years may apply for admission as an unclassified student.

Students who enroll as unclassified students may take any undergraduate course as long as the prerequisite listed in the course description is honored. Unclassified students are limited to two courses per semester or summer term. An unclassified student may apply for admission as a degree candidate upon completing a minimum of 15 semester hours with a "C" average on all work attempted. The student must complete English 101-102 and three semester hours of basic mathematics with a "C" or better before being considered for admission as a degree candidate. A transfer student who has completed English 101-102 and three semester hours of basic mathematics with a "C" or better will be considered

as having met this requirement.

To avoid delay in having applications considered for admission as degree candidates, unclassified students are advised to apply prior to the application deadline established for the semester. Students with previous college credit are advised to have transcripts from all institutions previously attended forwarded to the Admissions Office well in advance of the semester for which they wish to apply. The maximum number of hours allowed students in the unclassified category is 30 semester hours. When this limit is reached, the student must be eligible to enroll as a degree candidate or terminate his enrollment with the University.

Unclassified students are subject to the academic regulations of the University as applicable.

ADMISSIONS-SPECIAL STUDENTS

Any individual who already possesses a college degree and wishes to enroll for an undergraduate course in the University at Wilmington or any individual with a degree who wishes to work toward a second baccalaureate degree should register through the Office of Admissions.

ADMISSIONS-SUMMER VISITORS

During the summer session, students from other colleges or universities may be admitted as visitors by using the "Summer Visitor" application. Applicants from other colleges or universities should seek prior approval from their dean to take courses at The University of North Carolina at Wilmington. The University assumes no responsibility in determining a student's course selection when such credits are to be transferred elsewhere. Enrollment by permission from another institution in no way obligates the University to continue one's enrollment at The University of North Carolina at Wilmington after the expiration of the permission period. Summer visitor applications and schedules are available by February of each year.

ADMISSIONS-SPECIAL HIGH SCHOOL STUDENTS

Selected high school seniors who wish to pursue an academic program on the collegiate level while attending high school may enroll at The University of North Carolina at Wilmington if they meet the qualifications for participation in this program. Because of distance this program is available primarily to students in the Wilmington area. Special applications for admission are available in the office of the high school counselor. Students may enter this

program at the beginning of the fall, spring or summer term.

ADMISSIONS-FOREIGN STUDENTS

The University welcomes admission inquiries from foreign students. The prospective student must present evidence that he is academically qualified for admission and present satisfactory test results on the Test of English as a Foreign Language (TOEFL) to indicate his English proficiency.

ADMISSIONS-SENIOR CITIZENS

Residents of North Carolina who have attained the age of 65 and who meet applicable admission requirements may enroll tuition free on a space-available basis. The availability of class space cannot be determined until after registration.

ADMISSIONS-GRADUATE STUDENTS

All inquiries concerning admission to graduate programs should be directed to the Office of Graduate Studies. Admissions requirements are stated in the Graduate Studies section.

NONDISCRIMINATION POLICY

UNC-W is dedicated to equality of opportunity within its community. Accordingly, UNC-W does not practice or condone discrimination in any form against students, employees, or applicants on the ground of race, color, national origin, religion, sex, age, handicap or veteran status. UNC-W commits itself to positive action to secure equal opportunity regardless of those characteristics. UNC-W is covered by and supports the protection afforded by Title VI and VII of the Civil Rights Acts and Title IX of the Education Amendment of 1972 Executive Order 11246 and the Vietnam Era Veteran's Readjustment Assistance Act of 1972, and the Rehabilitation Act of 1973. For information concerning these provisions, contact the appropriate compliance officer.

SAFETY AND HEALTH PROGRAM

UNC-W's safety program complies with the State Occupational Safety and Health Act of 1973.

Any student who supplies false or misleading information or who conceals pertinent facts in order to enroll in The University of North Carolina at Wilmington will be subject to immediate dismissal from the University.

EXPENSES

EXPENSES

The Board of Governors of The University reserves the right to change the charges for tuition, fees and the room and board rate at any time without prior notice.

TUITION AND FEES

All charges for tuition and regular fees are due and payable on or before the day of registration. Checks and money orders should be made payable to The University of North Carolina at Wilmington.

Charges Per Semester:

	In-State Students	Out-of-State Students*
Tuition	$135.00	$1012.50
Fees	145.00	145.00
Total	$280.00	$1157.50

Other Fees:	
Application Fee (to accompany application, nonrefundable)	$10.00
Late Registration Fee (payable after scheduled dates)	7.50
Transcript Fee (after the first)	1.00
Private Music Fee: one half-hour per week	37.50
two half-hours per week	67.50
Graduation Fee	15.00

Certain courses require an additional fee. These fee courses are indicated in the course schedule for each semester.

Undergraduate students scheduling fewer than ten semester hours will pay tuition and fees as follow:

Semester Hours Scheduled	In-State Students	Out-of-State Students
1	$ 63.00	$ 150.00
2	76.00	250.00
3	89.00	350.00
4	102.00	450.00
5	182.00	617.00
6	195.00	717.00
7	247.00	856.00
8	261.00	957.00
9	274.00	1057.00

The privileges of students taking fewer than five hours per semester will be restricted to class attendance and use of the library.

*See information on residency at the end of this section.

No degree, diploma, transcript of credits, or grades will be furnished a student until all financial obligations to the University, other than student loans, have been paid. All previously incurred expenses and accounts at the University must be paid in full before a student may reenter at the beginning of any semester.

ROOM AND BOARD

Two plans are available for room and board, one providing meals five days per week and the other providing meals seven days per week. The rates per semester are:

Room and Board: 5 days — 15 meals $755

Room and Board: 7 days — 21 meals $780

Dining facilities are available on Saturdays and Sundays on a cash basis to all resident students not on a seven-day plan. Food service is also available seven days per week on a cash basis to non-resident students.

Those interested in obtaining information should contact:

Housing Office
The University of North Carolina at Wilmington
Post Office Box 3725
Wilmington, North Carolina 28406

A $50 deposit must accompany the housing application.

SUMMER SESSION

Summer session tuition, fees, refund policy, and room and board rates will be announced in the Summer Session Bulletin.

REFUNDS

A student who officially withdraws from the University on or before the last day of the registration period will receive a refund of the amount paid.

After the registration period the student will be charged 1/10 of the semester charges for each week in attendance, plus a registration fee of $7.50. No refund will be made after the end of the ninth week.

Students who receive financial aid are not given refunds on financial aid received when charges are prorated due to withdrawal.

Room and board agreements are effective for the full academic year. Agreements made subsequent to the beginning of the fall semester remain in effect until the close of the spring semester. Room and board deposit and charges will not be refunded except as provided for below:

a. Agreements may be cancelled without forfeiture of deposit before May 19. Written notice of cancellation must be furnished the Director of Housing.

b. Agreements may be cancelled with forfeiture of deposit between May 19 and the date on which the residence halls open for fall semester. Room rent for the fall semester will not be refunded after the opening of the residence halls.

c. Agreements entered into for the spring semester only may be cancelled without forfeiture of deposit before December 1 and with forfeiture of deposit between December 1 and the date on which the residence halls open for spring semester. Room rent for the spring semester will not be refunded after the opening of the residence halls. Written notice of cancellation must be furnished the Director of Housing.

d. A pro rata refund of dining charges will be made to students who officially withdraw from the University.

RESIDENCY STATUS FOR TUITION PAYMENT

Residency status for tuition purposes is defined in the North Carolina General Statues as follows:

> To qualify for in-state tuition a legal resident must have maintained his domicile in North Carolina for at least the 12 months immediately prior to his classification as a resident for tuition purposes. In order to be eligible for such classification, the individual must establish that his or her presence in the State during such twelve-month period was for purposes of maintaining a bona fide domicile rather than for purposes of mere temporary residence incident to enrollment in an institution of higher education; further, (1), if the parents (or court-appointed legal guardian) of the individual seeking resident classification are (is) bona fide domiciliaries of this State, this fact shall be prima facie evidence of domiciliary status of the individual applicant and (2) if such parents or guardian are not bona fide domiciliaries of this State, this fact shall be prima facie evidence of non-domiciliary status of the individual. (G.S. 116-143.1(b)

The initial classification of students as in-state or out-of-state

residents for tuition purposes is made by the Admissions Office. Appeals for in-state status may be made to the campus appeals body, Out-of-State Tuition Appeals Committee. University regulations governing residential classification of students are set forth in detail in "A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes." Each enrolled student is responsible for knowing the contents of this manual. Copies of the manual are available for inspection upon request in the Admissions Office and in the Student Affairs Office.

FINANCIAL AID

FINANCIAL AID

STUDENT FINANCIAL AID

The UNC-Wilmington Financial Aid Office administers a program of financial aid which seeks to meet the needs of all enrolled students. While the program provides for the recognition of talent and outstanding student achievement, the program strives primarily to assist students with demonstrated financial need. It is our aim that no student be denied the opportunity to enroll or continue his education because of financial circumstances. The operation of the program is based upon a concept of needs-analysis that expects a student's family to meet educational expenses as completely as possible. The difference between the full cost of attendance and the determined amount of family contribution constitutes our definition of financial need. It is this calculated need which determines the amount of assistance an applicant receives.

To apply for financial aid a student must complete a Financial Aid Form provided by the College Scholarship Service and an institutional Financial Aid Application. Both forms are available in the UNC-Wilmington Financial Aid Office. Applications filed before April 15 will receive priority.

GRANTS AND SCHOLARSHIPS

The Basic Educational Opportunity Grant Program provides federal grants for students who show need for assistance in attending college. A student's award varies depending upon his classification as half-time, three-quarter, or full-time. The BEOG program is intended to be the "floor" of a financial aid package and may be combined with other forms of aid in order to meet the full costs of education. The BEOG is a grant, and, unlike a loan, does not have to be repaid. A student must be enrolled in an undergraduate course of study, and must not previously have received a Bachelor's degree from any institution. Also, he must be a U.S. citizen or in the U.S. for other than a temporary purpose with intentions to become a U.S. citizen or permanent resident of the Trust Territories of the Pacific Islands. To apply for a Basic Grant a student must complete a Financial Aid Form and mail it to Princeton, N.J. Information submitted in this form is forwarded to the Basic Grant Administration which determines eligibility. An eligibility document is subsequently mailed to the student, and it is this document that the applicant in turn mails to the Financial Aid Office for final determination and payment.

The Supplemental Educational Opportunity Grant Program provides aid to students who have an exceptional financial need. To receive an SEOG a student must apply to the Financial Aid Office at UNC-W. At UNC-W, Supplemental Grants range in value from $200 to $1,000 per year. By legislative requirement these grants must be matched dollar for dollar with other types of financial aid, such as work, loan, or scholarship. To be eligible for a grant a student must be enrolled for at least 12 hours and must be a citizen or resident of the U.S.

The N.C. Incentive Grant Program provides grants to students who have substantial financial need. Applicants must be N.C. residents taking at least 12 hours towards an undergraduate degree. Grants generally range from $200 to $1,500. To apply for a grant a student must complete a Financial Aid Form and in the section for listing institutions and programs to receive a copy of the FAF should enter "North Carolina Student Incentive Grant Program 0742."

UNC-W Grants provide needy and worthy students with awards which cover tuition costs. To be eligible for one of these grants a student must be enrolled for at least 12 hours and have at least a 2.0 grade point average. Competition for these grants, however, generally results in higher grade point requirements.

UNC-W Scholarships are awarded to students for talents and outstanding achievement. These scholarships are equal to the cost of tuition and are awarded through the Financial Aid Office by various departments, organizations, campus publications, and the radio station. Interested students are encouraged to contact the departments or other organizations for applications. Selected candidates must be enrolled for 12 hours and present at least a 2.0 grade point average to receive a scholarship.

Cherry, Bekaert, and Holland Scholarships — The William S. Holland Scholarship for accounting majors was established in honor of William Holland, retired partner of Cherry, Bekaert and Holland, Certified Public Accountants. Mr. Holland was a member of the first graduating class of Wilmington Junior College. The scholarship will be given annually to an accounting major who has completed the sophomore year. The award is based on scholastic ability, potential in the field of public accounting, and need.

Wrightsville Marine Research Foundation Scholarships — These scholarships are open to students who have attained their sophomore year in satisfactory standing and are interested in, and acceptable for, active participation in the research programs at the Institute for Marine Biomedical Research. Each scholarship will amount to $1200 a year and, in general, will be renewed yearly for

students who continue to meet the above requirements. Applications may be picked up in the Financial Aid Office. Serious inquiries should be directed to Dr. Ralph Brauer, Chairman, Selection Committee, Institute for Marine Biomedical Research, 7205 Wrightsville Avenue, Wilmington, N.C. 28403.

General Competitive Scholarships include several name or organizational scholarships which are administered through the Financial Aid Office for worthy students who are considered to have need.

These include: Lucille Murchison Marvin Foundation Scholarship
Eliza Collins Scholarship
Henry Harrell Scholarship
Sue McCall Boone Scholarship
Rotary Club of Wilmington Scholarship
Juanita H. Borneman Memorial Nursing Scholarship
James Walker Memorial Nursing Scholarship
Medical Auxiliary Scholarship
Billie Burney Memorial Nursing Scholarship
Jackson Beverage Company Scholarship

Athletic Grants-In-Aid are awarded to qualified students selected by members of the coaching staff. Additional information may be obtained by writing to the Director of Athletics.

The Law Enforcement Education Grant Program provides assistance in the form of tuition grants to full-time law enforcement personnel. To be eligible, an applicant must be pursuing course work which is part of a degree program related to crime, or the more general degree programs in the behavioral, managerial, or social sciences. LEEP applications may be obtained in the Financial Aid Office.

Minority Presence Grant Program represents a state plan to afford more minority students the opportunity to study at UNC-Wilmington. These funds are limited to North Carolina minority students enrolled full time in an undergraduate program of study leading to a degree. Entering freshmen and new students are given priority consideration.

The Dovie P. Bowden Scholarship Fund was established by Dovie P. Bowden to provide a cash award for a biology or marine biology major at UNC-W. An award of $50 based on scholarship and need is given annually to a biology or marine biology student of junior standing selected by the faculty of the Biology Department. Application forms and other information may be obtained from the Biology Department.

WORK PROGRAMS

The College Work-Study Program provides funds to employ needy students on the UNC-W campus. Students are paid an hourly rate equal to the minimum wage and may be awarded up to a maximum of 20 hours per week. Applications for Work-Study should be made to the Financial Aid Office. To be eligible for Work-Study a student must be enrolled for at least six hours and be a citizen or resident of the United States.

The Work-Assistance Program provides funds to employ students on the UNC-W campus. However, there is no need factor involved in the selection of students for this program. Students interested in the program should direct inquiries to the departments in which they prefer to work.

The Plan Assuring College Education (PACE) provides jobs near the homes of North Carolina students. It assures eligible Work-Study students of summer employment with the understanding that 80% of the earnings must be saved for college expenses.

LOAN PROGRAMS

The National Direct Student Loan Program provides needy students with long-term, low interest loans for educational expenses. Under this program the student borrows money to finance a college education and repays the loan after graduation. Repayment begins nine months after graduation, and the borrower may take up to ten years to repay the loan. The interest rate of three percent does not begin accruing until the repayment period begins. All or part of the loan can be cancelled for teaching or military service. To receive an NDSL a student must apply to the Financial Aid Office. National Direct Student Loans range from $100 to $1250 per year at UNC-W. To be eligible for an NDSL a student must be enrolled for at least six hours and be a citizen or resident of the United States.

The Federally Insured Loan Program (College Foundation, Inc.) provides students with long-term, low interest loans for post-secondary educational expenses. Under this program the student borrows from College Foundation, Inc., and repays the loan after graduation. The repayment period begins nine months after graduation, and the borrower may take up to ten years to repay the loan. The interest rate is seven percent and begins accruing when the repayment period begins. Applications for Federally Insured Loans should be made directly to College Foundation, Inc. 1307 Glenwood Avenue, Raleigh, N.C. 27605. The maximum amount that a student may borrow under the program is $2000 per academic

year. To be eligible for this program a student must be enrolled for at least 12 hours and be a North Carolina resident.

The North Carolina Prospective Teachers Scholarship-Loan Program provides assistance to prospective North Carolina teachers. The program provides a $900 per year loan which will be cancelled if the student teaches in North Carolina public schools after graduation. The program is administered by the Department of Public Instruction, and inquiries regarding the program should be directed to N.C. Prospective Teacher's Scholarship Program, State Department of Public Instruction, Raleigh, N.C. 27611. To be eligible for this program a student must be enrolled for at least 12 hours and be a North Carolina resident.

Student Emergency Loans are available to enable a student to meet unexpected expenses. These loans must be repaid in 30 to 60 days and are not extended beyond the end of a term or graduation.

ACADEMIC CONSIDERATIONS

Regulations require that awards under the various student assistance programs may not be granted to a student who is not making measurable academic progress. Accordingly the following charts will serve to establish eligibility for payments:

CLASSIFIED (DEGREE) STUDENTS

Hours	Grade Point Average
27-58	1.20
59-88	1.50
89 or more	1.80

UNCLASSIFIED STUDENTS

Hours	Grade Point Average
1-6	1.20
7-12	1.50
13-18	1.80
19-27	2.00

OFFICE OF VETERANS AFFAIRS

The Office of Veterans Affairs (OVA) exists to provide educational assistance to veterans and/or their dependents enrolled at The University of North Carolina at Wilmington. The OVA is concerned with the recruitment of veterans into the University and insuring that they successfully complete their educational programs. The OVA provides peer and professional counseling, remedial services, tutorial services, and community outreach services. This office also acts to coordinate existing campus services to best

serve the needs of the veteran students. Transfer students are reminded that the OVA must have copies of all transcripts before certification can be made to the Veterans Administration for payment.

Veterans and dependents receiving VA educational benefits are required by the VA to pass at least one course the semester they begin their college training. All students receiving VA educational benefits are now required to come by the OVA at least once per semester. This action is necessary in order to insure prompt correspondence between the OVA and the Veterans Administration. The above retention charts will apply to all veterans and dependents using GI benefits for their training at this University.

Records of progress are kept by this institution on veteran and non-veteran students alike. Progress records are furnished the students, veteran and non-veteran alike, at the end of each scheduled school term.

STUDENT AFFAIRS

STUDENT AFFAIRS

COUNSELING AND TESTING

Psychologists and associates provide service to students seeking assistance in achieving maximum personal growth, effective educational, vocational and social relationships and healthy personal adjustment. These services include counseling, assessment and evaluation of achievement, personality, aptitude and vocational interests. There is no charge for these services. Counseling Center sessions and files are confidential.

Concerns and decisions which are commonly discussed by students who come to the Counseling Center include:

(1) Choice of a major. Students often wish to plan which major best suits their interests, values and abilities.
(2) Choice of career. Going hand-in-hand with choices regarding a major, yet often of more specific concern, are student questions related to decision about vocational choice.
(3) Academic problems. Some students may benefit from an assessment of reading skills and study habits.
(4) Personal problems. Situations may arise in which a student needs greater understanding of self and others.

CAREER PLANNING AND PLACEMENT

The Career Planning and Placement Office assists students and alumni of UNC-W in developing career plans through personal counseling, by conducting workshops, seminars and an annual Career Day, and by providing current occupational and career-planning materials and information. Individuals are especially encouraged to utilize this service early in their academic career when decisions concerning majors and career goals are being made. Information and counseling on careers, specific job requirements, employers, and graduate school programs are available.

Additionally, the office publicizes specific job openings, makes individual referrals, schedules recruiting visits and keeps on file company literature, information about public and private schools, and state and federal government opportunities. The office and career library are located in 207 Alderman Administration Building.

Listings of summer work and part-time employment during the academic year are available through this service. Individual assistance is provided to those with employment needs. Students interested in exploring internship and cooperative education program possibilities are also invited to visit the Career Planning and Placement Office.

Seniors are urged to register with the Career Planning and Placement Office early in their final year in order to establish a credentials file and to avail themselves of the services of the office.

STUDENT HOUSING

The University has residence facilities for approximately 500 men and 500 women in four modern, conveniently located dormitories. All rooms are air-conditioned and furnished, and laundry facilities are available. Resident students are required to take their meals in the University cafeteria under either a five-day or a seven-day plan.

FOOD SERVICE

The University operates a modern, air-conditioned cafeteria building. Hot meals are served on the second floor and a snack area is located on the first floor. Short order food service is also available in the Good Wood Tavern of the Hinton James Student Services Building. Service is on a cash basis for non-boarding students.

STUDENT HEALTH SERVICE

UNC-Wilmington provides a student Health Service Center which is located adjacent to the lobby area of our newest residence hall (Dorm '79). The center has the most modern medical equipment available for the treatment of minor illness or injury. The Health Service Center is open five days a week and a physician is on call at night and on weekends. THIS SERVICE IS PAID FOR BY STUDENT FEES AND IS INTENDED TO COVER ONLY MINOR ILLNESS OR INJURY.

STUDENT HEALTH INSURANCE

It is strongly recommended that students who are not covered for major medical expenses (serious injuries due to accidents or hospitalization) under their family health and accident insurance plan contact the Student Affairs Office for information relative to the student health insurance plan offered at a nominal cost through the University.

RELEASE OF "DIRECTORY INFORMATION"

The University of North Carolina at Wilmington has routinely made public certain information about its students. Some typical ways this has been done include the following: names of students who are selected by the various honorary societies, who receive

scholarships, who make the Dean's List, who hold offices, or who are members of athletic teams are frequently made public. The annual commencement program publishes the names of persons who have received degrees during the year.

The Family Educational Rights and Privacy Act defines the term "directory information" to include the following categories of information: the student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. The University will make public information about each student limited to these categories in ways such as those described above. Of course, information from all these categories is not made public in every listing.

Students who do not wish to have any or all of such "directory information" made public without their prior consent must notify the Office of the Registrar, The University of North Carolina at Wilmington, of this fact in a signed and dated statement specifying items not to be published. This notice must be received by the Office of the Registrar by the end of the registration period for the semester or session of first enrollment or, after an absence, of re-enrollment and by the end of each fall registration period thereafter.

STUDENT CONDUCT

The filing of an *application for admission* shall be construed as both an evidence and a pledge that the applicant accepts the standards and regulations of The University of North Carolina at Wilmington and agrees to abide by them. Each student, by the act of registering, obligates himself to obey all rules and regulations of the University as stated in the student handbook, the University catalogue and other University publications. The University reserves the right to ask for the withdrawal of any student who refuses to adhere to the standards of the institution.

STATEMENT OF UNIVERSITY POLICIES, PROCEDURES, AND DISCIPLINARY ACTIONS IN CASES OF DISRUPTION OF EDUCATIONAL PROCESS

ADOPTED BY THE BOARD OF TRUSTEES OCTOBER 27, 1970

Section 5-1. Policies Relating to Disruptive Conduct

The University of North Carolina has long honored the right of free discussion and expression, peaceful picketing and demonstrations, the right to petition and peaceably to assemble. That these rights are a part of the fabric of this institution is not questioned. They must remain secure. It is equally clear, however, that in a community of learning willful disruption of the educational process, destruction of property, and interference with the rights of other members of the community cannot be tolerated. Accordingly, it shall be the policy of the University to deal with any such disruption, destruction or interference promptly and effectively, but also fairly and impartially without regard to race, religion, sex or political beliefs.

Section 5-2. Definition of Disruptive Conduct

(a) Any faculty member (the term "faculty member," wherever used in this Chapter V, shall include regular faculty members, full-time instructors, lecturers, and all other persons exempt from the North Carolina State Personnel System (Chapter 126 of the General Statutes as amended) who receive compensation for teaching, or other instructional functions, or research at the University), any graduate student engaged in the instructional program, or any student who, with the intent to obstruct or disrupt any normal operation or function of the University or any of its component institutions, engages, or incites others to engage, in individual or collective conduct which destroys or significantly damages any University property, or which impairs or threatens impairment of the physical well-being of any member of the University community, or which, because of its violent, forceful, threatening or intimidating nature or because it restrains freedom or lawful movement, otherwise prevents any member of the University community from conducting his normal activities within the University, shall be subject to prompt and appropriate disciplinary action, which may include suspension, expulsion, discharge or dismissal from the University.

The following, while not intended to be exclusive, illustrate the offenses encompassed herein, when done for the purpose of obstructing or disrupting any normal operation or function of the University or any of its component institutions: (1) occupation of any University building or part thereof with intent to deprive others of its normal use; (2) blocking the entrance or exit of any University building or corridor or room therein with intent to deprive others of lawful access to or from, or use of, said building or corridor or room; (3) setting fire to or by any other means destroying or substantially damaging any University building or property, or the property of others on University premises; (4) any possession or display of, or attempt or threat to use, for any unlawful purpose, any weapon, dangerous instrument, explosive, or inflammable material in any University building or on any University campus; (5) prevention of, or attempt to prevent by physical act, the attending, convening, continuation or orderly conduct of any University class or activity or of any lawful meeting or assembly in any University building or on any University campus; and (6) blocking normal pedestrian or vehicular traffic on or into any University campus.

(b) Any person engaged in the instructional program who fails or refuses to carry out validly assigned duties, with the intent to obstruct or disrupt any normal operation or function of the University or any of its component institutions, shall be subject to prompt and appropriate disciplinary action under this Chapter V if (but only if) his status is such that he is not subject to the provisions of Section 4-3 of Chapter IV.

Section 5-3. Responsibilities of the Chancellor

(a) When the Chancellor has cause to believe that any of the provisions of this Chapter V have been violated, he shall forthwith investigate or cause to be investigated the occurrence, and upon identification of the parties involved shall promptly determine whether any charge is to be made with respect thereto.

(b) If he decides that a charge is to be made, he shall, within thirty (30) days after he has information as to the identity of the alleged perpetrator of the offense but in no event more than twelve (12) months after the occurrence of the alleged offense, (i) refer the case to the appropriate existing University judicial body, or (ii) refer the matter to a Hearing Committee drawn from a previously selected Hearings Panel which, under this option, is required to implement action for violation of Section 5-2 (a) or (b) of this Chapter. If the case is referred to an existing University judicial body under (i) above, the procedural rules of that body shall be followed, and subsections (c) through (f) below shall not be applicable. If the

matter is referred to a Hearing Committee under (ii) above, the procedural rules prescribed in subsection (c) through (f) shall be followed.

(c) The accused shall be given written notice by personal service or registered mail, return receipt requested, stating:

(1) The specific violations of this Chapter V with which the accused is charged.

(2) The designated time and place of the hearing on the charge by the Hearing Committee, which time shall not be earlier than seven (7) nor later than ten (10) days following receipt of the notice.

(3) That the accused shall be entitled to the presumption of innocence until found guilty, the right to retain counsel, the right to present the testimony of witness and other evidence, the right to cross-examine all witnesses against him, the right to examine all documents and demonstrative evidence adverse to him, and the right to a transcript of the proceedings of the hearing.

(d) The Hearing Committee shall determine the guilt or innocence of the accused. If the person charged is found guilty, the Hearing Committee shall recommend to the Chancellor such discipline as said body determines to be appropriate. After considering such recommendation the Chancellor shall prescribe such discipline as he deems proper. In any event, whether the person is found guilty or not guilty, a written report shall be made by the Chancellor to the President within ten (10) days.

(e) Any person found guilty shall have ten (10) days after notice of such finding in which to appeal to the President of the University. Such an appeal if taken shall be upon the grounds set forth in Section 5-5.

(f) Any accused person who, without good cause, shall fail to appear at the time and place fixed for the hearing of his case by the Hearing Committee shall be suspended indefinitely or discharged from University employment.

(g) The Chancellor, unless so ordered or otherwise prevented by courts, shall not be precluded from carrying out his duties under this Chapter V by reason of any pending action in any State or Federal court. Should a delay occur in prosecuting the charge against the accused because the accused or witnesses that may be necessary to a determination of the charge are involved in State or Federal court actions, the time limitations set forth in this Section 5-3 shall not apply.

(h) Conviction in any State or Federal court shall not preclude the University or any of its officers from exercising disciplinary action in any offense referred to in this Chapter V.

(i) Nothing contained in this Chapter V shall preclude the President or the Chancellor from taking any other steps, including injunctive relief or other legal action, which he may deem advisable to protect the best interests of the University.

Section 5-4. Aggravated Acts or Threatened Repetition of Acts

(a) The Chancellor of each of the component institutions of the University shall appoint an Emergency Consultative Panel which shall be composed of not less than three (3) nor more than five (5) faculty members and not less than three (3) nor more than five (5) students who shall be available to advise with the Chancellor in any emergency. No member of such Panel shall serve for more than one (1) year unless he be reappointed by the Chancellor. The Chancellor may make appointments, either temporary or for a full year, to fill any vacancies which may exist on the Panel.

(b) If, in the judgment of the Chancellor, there is clear and convincing evidence that a person has committed any of the acts prohibited under this Chapter V which, because of the aggravated character or probable repetition of such act or acts, necessitates immediate action to protect the University from substantial interference with any of its orderly operations or functions, or to prevent threats to or acts which endanger life or property, the Chancellor, with the concurrence as hereinafter provided of the Emergency Consultative Panel established pursuant to (a) above, may forthwith suspend such person from the University and bar him from the University campus; provided, however, that in the event of such suspension the person suspended shall be given written notice of the reason for his suspension, either personally or by registered mail addressed to his last known addresses, and shall be afforded a prompt hearing, which, if requested, shall be commenced within ten (10) days of the suspension. Except for purposes of attending personally any hearings conducted under this Chapter V, the bar against the appearance of the accused on the University campus shall remain in effect until final judgment has been rendered in his case and all appellant proceedings have been concluded, unless such restriction is earlier lifted by written notice from the Chancellor.

(c) A quorum of the Emergency Consultative Panel provided for in (a) above shall consist of not less than four (4) of its members, and the required concurrence shall have been obtained if a majority of such quorum shall indicate their concurrence. The Chancellor shall meet personally with members of such Panel at the time he seeks concurrence, if it is feasible to do so. However, if the

circumstances are such that the Chancellor deems it not to be feasible to personally assemble such members, then he may communicate with them or the required number of them individually by telephone or by such other means as he may choose to employ, in which event he may proceed as provided in (b) above after the required majority of such members have communicated their concurrence to him.

(d) In the Chancellor's absence or inability to act, the President may exercise the powers of the Chancellor specified in this Section 5-4 in the same manner and to the same extent as could the Chancellor but for such absence or inability to act.

Section 5-5. Right of Appeal

Any person found guilty of violating the provisions of this Chapter V by the Hearing Committee referred to in Seciton 5-3 shall have the right to appeal the finding and the discipline imposed upon him to the President of the University. Any such appeal shall be in writing, shall be based solely upon the record, and shall be limited to one or more of the following grounds:

(1) That the finding is not supported by substantial evidence;

(2) That a fair hearing was not accorded the accused; or

(3) That the discipline imposed was excessive or inappropriate. It shall be the responsibility of the President to make prompt disposition of all such appeals, and his decision shall be rendered within thirty (30) days after receipt of the complete record on appeal.

Section 5-6. No Amnesty

No administrative official, faculty member, or student of the University shall have authority to grant amnesty or to make any promise as to prosecution or non-prosecution in any court, State or Federal, or before any student, faculty, administrative, or Trustee committee to any person charged with or suspected of violating Section 5-2 (a) or (b) of these Bylaws.

STUDENT ACTIVITIES AND HONORS

ACTIVITIES

Student life is enriched at The University of North Carolina at Wilmington by a wide spectrum of activities available to all, whether participant or observer. Supporting the belief that education is not bound to the classroom, the varied activities provide opportunities ranging from publications to programming to performing. The goal of the activities area is to educate, entertain, and enlighten the University community while providing a laboratory for student growth and an arena for the development of cultural, social, and recreational awareness.

STUDENT GOVERNMENT ASSOCIATION

The core of student life at the University is the Student Government Association. Officers and at-large senators are elected by the student body, and other senators by classes within the student body.

The association is a democratic organization, permitting expression of student opinion, working for the best interests of the University and upholding a high standard of morals and conduct.

The Student Government Association grants charters for the recognition of clubs within the institution. It is also responsible for the disbursement of half of the student activity fee. This money supports the Student Government Association in its objectives and campus activities. The association is a member of the National Entertainment and Campus Activities Association and the North Carolina Association of Student Governments.

UNIVERSITY PROGRAM BOARD

The University Program Board is designed to coordinate the various student-produced events on campus. It provides a diversified schedule of programs, activities, and events that promote and provide opportunities for educational, social, recreational, and cultural growth for students and campus community. The UPB is comprised of the following committees: Fine Arts, Dance/Outdoor Recreation, Concert, Lecture, Coffehouse, Publicity, and Special Events.

CLUBS AND ORGANIZATIONS

A variety of social, academic, and service organizations serve to enhance student life at The University of North Carolina at Wilmington. National sororities and fraternities are established on the

campus to recognize students for their leadership and service activities. Several departments in the University have locally and nationally organized groups to stimulate interest in specific areas and to develop professional attitudes. A representative listing follows.

Fraternal Organizations

Social Sororities:
Delta Sigma Theta
Delta Zeta
Social Fraternities:
Chi Phi
Omega Psi Phi
Pi Kappa Phi
Sigma Alpha Epsilon
Sigma Phi Epsilon
Tau Kappa Epsilon
Service Fraternities:
Alpha Phi Omega
Professional Fraternities:
Phi Beta Lambda
Pi Mu Epsilon
Sigma Alpha Beta
Sigma Pi Sigma

Clubs and other Organizations

B. Frank Hall Philosophy Club
Biology Club
Black Student Union
Campus Christian Fellowship
Chemistry Club
Coastal University Divers' Association
Earth Science Club
English Club
Eugene E. Williams Club de Espanol
Fishing Team
Football Club
Math Club
North Carolina Student Legislature
Physical Education Majors' Club
Pom Pom Squad
Recreation Majors' Club
Social Workers Club
Society of Physics Students

Student North Carolina Association of Educators
Student Nurse Association of North Carolina
UNC-W Astronomy Club
UNC-W Engineers Club
UNC-W Photography Club
UNC-W Rowing club
UNC-W Sailing Club
UNC-W Surfing Club
UNC-W Varsity Cheerleaders

PUBLICATIONS

Students are involved in the writing and editing of several university publications.

The Seahawk, the student newspaper, is published weekly. Its editorial staff is composed entirely of students.

The Fledgling, the student-produced yearbook, contains the usual features of a college annual.

The Atlantis, a literary magazine, is published by the students each semester.

The Channel Marker, a combination handbook and calendar, is published yearly as a primary source of information about University regulations and deadlines, as well as the dates, times and costs of the majority of campus events.

The Foram, a student journal, presents current undergraduate research in the marine sciences.

ATHLETICS

The University holds membership in the National Collegiate Athletic Association and the Association of Intercollegiate Athletics for Women.

Varsity intercollegiate teams are fielded for men in basketball, cross country, baseball, golf, soccer, tennis, and swimming. Varsity intercollegiate teams for women are fielded in basketball, softball, tennis, volleyball, swimming, golf, and cross country. Various club sports are also available.

In addition, an intramural sports program is provided for the student body. The program is based on both a competitive and recreational basis, and participation is voluntary.

MUSICAL PERFORMING ENSEMBLES

Membership is open to any student who has had instrumental or vocal experience, with the approval of the director of the particular ensemble. Any participant may earn credit. Participation by non-

music majors may be supplemented by private lessons, also for credit. Participation in either a vocal or an instrumental organization is required of all music majors.

Instrumental Ensembles

The UNC-W Wind Ensemble is organized each semester to provide instrumental music experience for those students who desire it. The Wind Ensemble presents at least two concerts per year.

The UNC-W Jazz Ensemble is drawn from the Wind Ensemble and gives training in improvising in the jazz idiom.

The UNC-W/Community Orchestra, Inc. rehearses on campus, and UNC-W students may enroll and receive credit for participating in it. Students often perform in the recently formed Pro Musica and Early Music Ensemble.

Faculty, Student Recitals and Senior Recitals are presented free of charge and are open to the public as well as to all students.

The music division also maintains an Electronic Music Studio.

Vocal Ensembles

The University of North Carolina at Wilmington Concert Choir is organized each semester to provide vocal musical experience for those students who desire it. Membership is open to any student in the University, with the approval of the director, and any participant may earn credit. Participation by non-music majors may be supplemented by private lessons, also for credit.

The University Concert Choir and small ensemble, The Chamber Singers, regularly provide music for University functions, appear on radio and television, and act as ambassadors from the University at a wide spectrum of community functions.

The UNC-W Concert Choir's yearly activities have included at least two on-campus concerts and an extensive tour during the spring holidays. On occasion the choir has participated in large, joint stage productions of opera and musical comedies with the drama division.

THE UNIVERSITY THEATRE

The University Theatre is a student-oriented theatre dedicated to the continuing development of all theatre practitioners. It strives to produce a total theatrical experience to support the educational, creative, and recreational potentials of a campus-based theatre.

Two major productions are presented each semester, with student productions presented on demand. Participation is not lim-

ited to dramatic art students, but is open to all university personnel and community residents.

UNIVERSITY READERS THEATRE

The University Readers Theatre provides students with an opportunity to participate in both the performance and technical production of a readers theatre script. Students attend open auditions and may take part in the reading, publicity, lighting, set design and managing of the show.

One major production is usually presented each semester. During semesters when the readers theatre course is offered, class members of that course will comprise the University Readers Theatre troupe. Interested students may inquire further at the Creative Arts Department.

DEBATE TEAM

The University Debate Team participates in a number of tournaments each year, giving students experience in research, argumentation and public speaking. The team is a member of the National Forensic Association, and topics chosen by the association are debated by collegiate teams nationally. Membership is open to all students.

ART EXHIBITIONS

Monthly exhibitions of paintings, sculpture and the graphic arts are held in the gallery-lobby of Kenan Hall. Student art is often featured. All exhibitions are open without charge to the public.

ACHIEVEMENT AWARDS

THE SOCRATIC SOCIETY

The Socratic Society is an honorary scholastic society formed in 1968 to give special recognition to seniors of outstanding academic accomplishment. It is sponsored by faculty members who belong to the scholastic honorary fraternity Phi Beta Kappa.

Graduating seniors who have completed a minimum of 60 semester hours in the humanities and have attained an overall quality point average of 3.5 may be recommended by the faculty of the area in which they are concentrating for election to the society.

PHI ETA SIGMA NATIONAL HONOR SOCIETY

Phi Eta Sigma is a national college scholastic honor society for freshmen. A member of the Association of College Honor Societies, it was founded at the University of Illinois on March 22, 1923. The University of North Carolina at Wilmington Chapter of Phi Eta Sigma was chartered on March 17, 1979.

The goal of Phi Eta Sigma is to encourage and reward high scholastic attainment among freshmen. At the close of their first academic year freshmen are eligible to join who have a cumulative grade-point average of 3.5 or better on a normal academic load.

WHO'S WHO AMONG STUDENTS IN AMERICAN UNIVERSITIES AND COLLEGES

The University of North Carolina at Wilmington participates in this national organization which lists in its annual directory outstanding campus leaders. Selection of the candidates is made by a nominating committee composed of faculty, administration and students.

HOGGARD MEDAL FOR ACHIEVEMENT

A medal, presented through the generosity of the late Dr. John T. Hoggard, is awarded annually to the graduating senior who, in the opinion of the faculty, has shown the most improvement during his years at the University. The medal is presented each year at commencement.

ALUMNI ASSOCIATION SCHOLASTIC ACHIEVEMENT AWARD

The Alumni Association of The University of North Carolina at Wilmington each year at commencement presents an award to the senior who has attained the highest academic average in his graduating class.

ACADEMIC REGULATIONS

ACADEMIC REGULATIONS AND PROCEDURES

ORIENTATION

All new students are required to attend an orientation program prior to the beginning of fall and spring semesters. Its purpose is to acquaint the student with opportunities and services at the University and to provide information needed for registration. Students are notified by mail of the time to report for the activities involved. Freshmen are assigned to the General College for advising purposes; transfer students are assigned to the department or school of major interest for advising purposes.

REGISTRATION

Registration is limited to the time period specified in the University calendar of events. Classes may not be added after the last day of registration. Students may take 12 to 18 hours without restriction. Students who have a cumulative quality point average of 3.5 may be allowed, with special permission of the appropriate dean, to carry a maximum of 21 semester hours.

PREREGISTRATION

Preregistration for those students currently enrolled is held each semester. Students who complete preregistration and pay fees by the designated date are registered except in the event that they are declared academically ineligible at the end of the preceding semester.

TRANSFER OF CREDIT

Students transfering from a two-year institution may receive up to 62 semester hours of academic credit from all institutions attended. Correspondence courses, advanced placement, CLEP credit and military service credit will be included in this total.

Students transferring from a four-year institution may receive up to a maximum of 92 semester hours from all institutions attended. Correspondence courses, advanced placement, CLEP credit and military service credit will also be included in this total.

A maximum of 15 semester hours earned through correspondence may be applied toward graduation. Credit earned in another institution with a grade of "C" or better is accepted by the University if the work transferred is comparable to offerings of The Uni-

versity of North Carolina at Wilmington. All grades earned at another institution are entered on the student's record exactly as earned. However, quality points earned at other institutions are not transferable and are not used in computing grade point averages except in the case of students applying to enter the teacher education program and of seniors graduating with honors and/or distinction.

ADVANCED PLACEMENT

The University of North Carolina at Wilmington participates in the Advanced Placement Program of the College Entrance Examination Board. A freshman who scores a grade 5, 4, or 3 on the final examination in any field will receive appropriate college credit and advanced placement in that field. Students taking Advanced Placement Tests should have the test booklets and score reports sent to the Office of Admissions for evaluation concerning placement and credit. Individual departments will determine the specific courses for which credit will be given.

Students who are talented and well-prepared, but who have not participated in the Advanced Placement Program in high school, may apply to participating departments for the Advanced Placement Test or the College-Level Examination Program. Every department for which such tests are available will offer them upon request to any student during two (2) scheduled testing periods each year.

Students who have been exempted with credit given at an accredited college or university may be exempted with credit given at The University of North Carolina at Wilmington on an individual basis, as determined by the appropriate department chairman. Students who have been exempted without credit will not be given exemption or cedit, but may elect to take one of the above examinations for possible exemption with credit. In those cases in which a student has demonstrated his knowledge of a particular field by subsequent course work, exemptions may be granted on an individual basis by the appropriate dean.

ACADEMIC HONOR CODE

The University of North Carolina at Wilmington is committed to the proposition that the pursuit of truth requires the presence of honesty among all involved. It is therefore this institution's stated policy that no form of dishonesty among its faculty or students will be tolerated. Although all members of the University community are encouraged to report occurrences of dishonesty, each indi-

vidual is principally responsible for his own honesty.

Academic dishonesty takes many forms, from blatant acts of cheating, stealing, or similar misdeeds to the more subtle forms of plagiarism, all of which are totally out of place in an institution of higher learning. To enforce the policy of academic integrity, to ensure justice, and to protect individual rights, a two court system is employed. Complete details may be found in *The Channel Marker,* the student handbook, and in the Faculty Handbook.

GRADES AND REPORTS

The University of North Carolina at Wilmington uses the quality point system and semester hour credit for calculating student achievement. Grade symbols used are A-excellent, B-good, C-average, D-passing, F-failure, I-incomplete, WP-withdrawal passing, WF-withdrawal failing.

Quality points are assigned as follows: 4 for a grade of "A"; 3 for a grade of "B"; 2 for a grade of "C"; 1 for a grade of "D." No quality points are given for a grade of "I," "F," "WP" or "WF." The quality point ratio is determined by dividing the accumulated number of quality points earned by the accumulated number of semester hours attempted. Hours attempted for which a grade of "I," "F" or "WF" has been assigned must be included in this calculation.

At the discretion of the instructor, a student may be given a grade of incomplete when the work in the course has not been completed for reasons beyond the control of the student. All incomplete grades must be removed according to a deadline established by the instructor, not to exceed one calendar year from the end of the semester in which the incomplete was given; otherwise the "I" becomes an "F."

Grade reports are mailed to the student at the end of each semester.

Dean's List

At the close of each semester, regular students who are carrying a full load of 15 semester hours will be included in the Dean's List providing they have no grade lower than a "B" and providing the quality point average of all their grades for that semester is 3.2 or better.

Withdrawal

A student may withdraw from the University or from any course during the period of registration as stated in the catalogue without having a grade entered on his record.

During the semester, forms requesting a WP or WF must be filed in the Office of the Registrar on or before the dates specified in the University calendar. A grade of WP will not affect the average; a grade of WF counts as hours attempted and will affect the average. During the last five weeks of the semester, a student who withdraws from the University or from individual courses will receive a grade of "F."

Any student who finds it necessary to withdraw from the University must give written notice of his intention to withdraw to the Office of the Vice Chancellor for Student Affairs. A student who fails to give written notice of his intention to withdraw will receive a grade of "F" in all courses.

Auditing

The auditing of courses without credit is permitted by special permission of the Registrar and of the instructor involved. Individuals not regularly enrolled as students in the University who wish to audit courses will be classified as special students and will be required to pay regular tuition and fees. University students in regular status will be permitted to audit courses and must pay the same tuition and fees as required for credit courses.

Repeating of Courses

A student who wishes to register for a course he has already taken and received credit for is required to have the approval of his major advisor, the department chairman, and the appropriate dean. These forms, which are available in the Registrar's Office, must be filed prior to registration for the course.

Off-Campus Courses

Students who enroll in off-campus courses (extension, correspondence, or summer school) and wish to apply credit in these courses toward a degree at The University of North Carolina at Wilmington must obtain written approval of the advisor, the department chairman and the appropriate dean before registering for the course. This permission must be filed in the Registrar's Office on forms supplied by that office.

GRADE APPEAL PROCEDURE

Any student who protests a course grade shall first attempt to resolve the matter with the instructor involved. Failing to reach a satisfactory resolution, the student may appeal the grade in accor-

dance with the procedures outlined below. Such appeal must be made not later than the last day of the next succeeding regular semester.

1. If the protested grade was awarded within the College of Arts and Sciences, the student shall present the appeal in writing to the chairman of the department in which the grade was given. By conferring with the student and the instructor, the chairman will seek resolution by mutual agreement. Failing such resolution, the chairman will transmit the written appeal to the Dean of the College of Arts and Sciences, who will convene the Grade Appeals Committee.
   If the protested grade was awarded within the School of Business Administration or the School of Education, the student shall present the appeal in writing to the Dean of the school in which the grade was given. By conferring with the student and instructor, the Dean will seek resolution by mutual agreement. Failing such resolution, the Dean will convene the Grade Appeals Committee.
2. The Grade Appeals Committee will consist of the convening Dean and five faculty members appointed by the Dean. If the Committee affirms the instructor's decision, the Dean will notify in writing the faculty member, the student, and the department chairman as appropriate. If the Committee supports the student's appeal, it shall prescribe the method by which the student will be reevaluated. If the reevaluation results in a grade change, the established Course Grade Change procedure will be followed. The grade resulting from the reevaluation is final and may not be further appealed.

CLASS ATTENDANCE

Students are expected to be present at all regular class meetings and examinations for the courses in which they are registered. When a student is absent from classes to the extent that his success in the course is jeopardized, the instructor will inform in writing both the student and the appropriate dean. The number of absences allowed for a course will be determined by the individual instructor. It is the responsibility of the instructor, during the first week of class, to inform the students of his policies concerning class attendance and grading.

FINAL EXAMINATION POLICY

University policy requires the scheduling of final examinations. Under this policy, the final examination schedule provides a three-hour period for each examination and allows a maximum of

three examinations per day. The length of the final examination, up to a maximum of three hours, is at the discretion of the instructor.

The final examination schedule is published at the beginning of each semester. Courses offered during the day have final examinations during the day (two per day). Night courses have final examinations at night (one per night).

A student who is scheduled to take three final examinations in one calendar day may have one rescheduled by notifying the three instructors and the appropriate deans of his desire at least two weeks before the beginning of the final examination period. It will be the responsibility of the three instructors, working with the student, to reschedule one of the examinations and to so inform the student and the appropriate deans at least one week before the beginning of the final examination period.

Rescheduling of a final examination for an entire class may be done only with the approval of the appropriate dean.

CLASSIFICATION OF STUDENTS

Students are classified as freshmen, sophomores, juniors, and seniors. Semester hours passed are used to determine these classifications. In order to graduate in 8 semesters, a student must average 15 to 16 hours per semester. The required number of hours passed for each classification is as follows:

Less than 27 semester hours credit — Freshman
From 27-58 semester hours credit — Sophomore
From 59-88 semester hours credit — Junior
More than 88 semester hours credit — Senior

Retention, Dismissal and Readmission

Scholarship is both encouraged and required at The University of North Carolina at Wilmington. In order to remain at the University, all students must meet the quality point requirements as outlined below:

RETENTION CHART

Total Hours Attempted	Required Quality Point Average for Eligibility To Continue in the University
27-58	1.2
59-88	1.5
89 or more	1.8

Transfer students are placed in the above retention chart based on total hours attempted at all institutions attended. A transfer student's quality point average is computed only on work attempted through The University of North Carolina at Wilmington.

Students who do not meet the minimum quality point requirement for retention at the conclusion of the spring semester will be declared ineligible. These students will be allowed to make up deficiencies during the summer sessions of this University which immediately follow the spring semester in which they were declared ineligible. If such deficiencies are not removed in this manner, the student will be dismissed from the University for one semester and will be required to apply for readmission to any subsequent regular semester. Readmission, if allowed, is upon a probationary basis and such students must prove themselves by meeting the required quality point average as outlined in the chart above. However any reenrolled student who makes a 2.0 average or better during the first semester after his return, but who fails to reduce his quality point deficiency to the required level, will be granted one additional semester in which to meet this requirement.

A second academic dismissial is final unless eligibility for continued residence or for readmission is restored by completion of sufficient work during summer sessions at The University of North Carolina at Wilmington.

Students who wish to restore their eligibility by taking courses at institutions other than The University of North Carolina at Wilmington must have written permission from the appropriate dean.

Any full-time student who fails to pass at least three hours during any semester is subject to academic dismissal for one semester, regardless of his quality point standing. Freshmen, other than transfer students, must earn at least three semester hours of credit the first semester and six additional hours during the second semester of the first year. Any student who fails to meet these requirements will be subject to academic dismissal. These students must also meet the minimum quality point ratio on hours attempted listed in the above table if they wish to continue in the University.

REQUIREMENTS FOR GRADUATION

Students may qualify for the bachelor's degree by completing successfully (1) the basic studies requirements, (2) an approved course of study in an area of concentration, (3) a total of 124 semester hours of credit, and (4) a minimum quality point average of 2.0. The final 15 hours of credit required for the concentration must

be completed at The University of North Carolina at Wilmington.

Graduation will be certified at the end of the term in which all academic requirements are completed, providing the final 30 hours of course credit are completed at the University at Wilmington. Upon completion of all requirements, the student will receive either the Bachelor of Arts or the Bachelor of Science Degree.

Before graduation, all seniors are invited to take the Aptitude Test of the Graduate Record Examination administered by the Educational Testing Service. The test is scheduled to be given on the Wilmington campus during the spring semester.

Application for graduation must be filed in the Office of the Registrar on or before the dates specified in the University calendar.

In advising and registering students, the deans, the Registrar and the faculty advisors try to make certain that every student who intends to graduate from the University registers for those courses which are required for a degree. The student, however, must assume the final responsibility for meeting the graduation requirements set forth in the University catalogue.

A student who enrolls at The University of North Carolina at Wilmington during any academic year and who earns credit for work done during the year may always graduate under the provisions of the catalogue under which he entered or under any subsequent catalogue, providing he completes all graduation requirements within six years of the expiration date of the catalogue chosen.

Participation in the graduation exercises is required of all eligible students unless excused by the Vice Chancellor for Student Affairs.

REQUIREMENTS FOR A DOUBLE CONCENTRATION

A student may elect to concentrate in two separate disciplines with the permission of the chairman of each of the departments and on the condition that the student meet all requirements for each concentration. The student who completes requirements for more than one concentration will receive only one degree, but at the time of his initial graduation his record will indicate both concentrations when the completed requirements lead to the same baccalaureate degree.

A student who returns to the University after his initial graduation to complete the requirements for a second concentration may have the additional area of concentration added to his official record upon written notification from the department chairman that all departmental requirements have been satisfactorily met.

REQUIREMENTS FOR A SECOND BACCALAUREATE DEGREE

A student with a bachelor's degree may receive a second baccalaureate degree if it is a different degree and a different concentration by fulfilling the following requirements:

(1) He must meet all the requirements for the second degree and concentration.
(2) He must complete a minimum of 30 hours in residence beyond the requirements for the first degree.

Degrees with Distinction

Three degrees with distinction are granted to graduating students based on all work attempted in meeting requirements for the degree as follows:

Cum Laude for an overall average of 3.50
Magna Cum Laude for an overall average of 3.70
Summa Cum Laude for an overall average of 3.90

Degrees with distinction are granted to transfer students under the following conditions:

1. The student must have the required overall average on all work attempted (including any transfer credit).
2. The student must have the required average on work completed at The University of North Carolina at Wilmington.

Students who complete the Senior Honors Program satisfactorily will be graduated "With Honors in" the discipline in which the special work is undertaken.

TRANSCRIPTS

All students are entitled to one official transcript of their work without charge. Additional copies of the transcript at a cost of $1.00 each may be obtained upon written request to the Office of the Registrar.

INDEBTEDNESS

All indebtedness to the University must be satisfactorily settled before a diploma or transcript of record will be issued.

CHANGE OF NAME AND ADDRESS

It is the obligation of every student to notify the Office of the Registrar and the Office of the Dean of Students of any change in name or address.

ACADEMIC PROGRAMS AND DEGREE REQUIREMENTS

ACADEMIC PROGRAMS

The University of North Carolina At Wilmington offers four-year programs leading to the Bachelor of Arts and the Bachelor of Science degrees, a two-year program leading to the Associate in Arts degree in Nursing, and graduate programs leading to the Master of Education and Master of Science degrees. Professional undergraduate programs include those offered in the School of Business Administration, the School of Education, and the James Walker Memorial Associate Degree Program in Nursing and the Medical Technology program in the College of Arts and Sciences. Preprofessional programs are offered in engineering, engineering operations, medicine, dentistry, forestry, law, pharmacy and agriculture. The University has special programs in marine sciences and environmental studies.

DEGREES OFFERED

Areas of Concentration for the Bachelor of Arts Degree

Biology
Chemistry
Creative Arts
  Art
  Drama
  Music
Earth Sciences
Economics
Elementary Education
English
Environmental Studies
French
Geography
Geology
History
Mathematics
Parks and Recreation Management
Philosophy and Religion
Physical Education
Physics
Political Science
Psychology
Social Science
Sociology
Spanish
Special Education
Speech Communication

Areas of Concentration for the Bachelor of Science Degree

Accounting
Biology
Business Administration
Chemistry
Computer Science
Economics
Marine Biology
Mathematics
Medical Technology
Physics

Areas of Concentration for the Master of Education Degree

Elementary Education
Educational Administration and Supervision

Areas of Concentration for the Master of Science Degree

Marine Biology Coastal Biology
Biological Oceanography

THE GENERAL COLLEGE

The General College at The University of North Carolina at Wilmington, currently administered by the Dean of the College of Arts and Sciences, comprises the freshman and sophomore years of study. Usually during these first two years, a student will concentrate upon basic studies requirements. Upon completion of the freshman year, however, a student may request to be transferred for advising to the appropriate school or department.

General College Advising Program

The General College Advising Center, located on the second floor of the Randall Library, is open 8:00-5:00, Monday through Friday during the fall and spring semesters. More than thirty faculty advisors participate in the advising program and are available to students either by appointment or on a drop-in basis. Advisees are expected to see their advisors before preregistration/registration and before dropping or adding courses or withdrawing from the University. Students should feel free to talk with their advisors about career plans, educational goals, course selections, or to seek knowledgeable assistance in these matters.

Basic Studies Requirements

A primary objective of the basic studies requirements is to provide an opportunity for every student to develop those skills in communication appropriate to the needs of modern society, and to acquire an understanding of the humanities, history, and the social and natural sciences as bases for cultural enjoyment and economic advancement. The basic requirements are designed to help meet this objective.

To qualify for the bachelor's degree from The University of North Carolina at Wilmington, all students must meet the basic studies requirements as outlined below, and in fulfilling these requirements must acquire a total of forty-five semester hours less exemptions.

A. Basic Skills
   Courses taken to satisfy basic skills may not be used to satisfy divisional requirements. These course requirements may be waived if the student demonstrates by examination an appropriate proficiency in these basic skills areas:

1. English Composition (6 hours)
   Required: English 101 and 102
   Composition (3-3)
2. Mathematics (3 hours)
   Required: One of the following courses: Mathematics 101, 111, 115, or any three-semester hour mathematics course above these levels except Mathematics 141, 142.
3. Physical Education (2 hours)
   Required: Physical Education 101 and 102 (1-1)

B. Divisional Requirements
   1. Humanities (9-15 hours)
      Required: A minimum of nine and a maximum of fifteen hours elected from at least two of the following areas:
      (a) English
          All courses except 245, 301, 305, 306, 307, 308, 309, and 345
      (b) History
          All courses listed in the catalogue
      (c) Modern Languages
          All courses listed in the catalogue
      (d) Philosophy and Religion
          All courses listed in the catalogue
   2. Creative Arts (3-6 hours)
      Required: A minimum of three and a maximum of six hours elected from the following areas:
      (a) Art
          Art 201, 202, 203, 306, and all beginning studio courses except 105, 106, and 107
      (b) Drama
          Drama 221, 222, and 225
      (c) Music
          Music 085, 086, 087, 105, 115, 116, 117, and 118
      (d) English
          English 307, 308, and 309
      (e) Speech Communication
          Communication 105 and 116
   3. Natural Science and Mathematics (7-12 hours)
      Required: A minimum of seven and a maximum of twelve hours including at least one course in a laboratory science elected from the following areas:
      (a) Biology
          All courses listed in the catalogue
      (b) Chemistry
          All courses except 107

(c) Mathematics
All Mathematics and Statistics courses except 101, 111, 115, 141, and 142
(d) Physics
Physics 101, 102, 105, 106, 107, 201, and 202
(e) Earth Sciences
Geography 135, 335, 430, and 432
All Earth Science courses except 230
All Geology courses

4. Social and Behavioral Sciences (3-9)
Required: A minimum of three and a maximum of nine hours elected from the following areas:
(a) Economics
All courses listed in the catalogue
(b) Geography
All courses except 135, 330, 335, 430, and 432
(c) Political Science
All courses listed in the catalogue
(d) Psychology
All courses except 110
(e) Sociology-Anthropology
All Anthropology and Sociology courses listed in the catalogue.

REQUIRED PHYSICAL EDUCATION

Students should expect to develop through participation in the physical education program activity skill, more efficient physiological function, and effective movement.

The University requires all students to complete with a passing grade two semesters of activity courses. This requirement for graduation must be fulfilled during the first two years unless postponement is authorized by the chairman of the Department of Health, Physical Education and Recreation.

The above requirement must also be completed by students transferring from other institutions who have not had its equivalent. A transfer student who has not completed this requirement and who is not enrolled for a sufficient number of semesters to fulfill the requirement shall enroll for physical education activity courses for each semester he is enrolled.

The University requires that all students furnish information concerning their current health status. This information is provided on the Report of Medical History form which is kept on file in the Student Health Services Center and is a prerequisite to (1) registration in any physical education activity course, (2) partici-

pation in any intramural activity, and (3) utilization of the physical education facilities for recreational purposes.

On the basis of this information the Student Health Services Center will place the student in one of the three categories listed below:

A. Unrestricted participation
B. Restricted participation
C. Temporarily restricted participation because of an injury or illness.

The requirement in physical education may be waived wholly or in part if requested by the student for any of the following reasons:

1. Upon recommendation of the University physician
2. If the student enters the University at the age 27 or older
3. If he is a veteran with at least one continuous year of active military service
4. Under exceptional circumstances on approval by the chairman of the Department of Health, Physical Education and Recreation

COLLEGE OF ARTS AND SCIENCES

Daniel B. Plyler, *Dean*

The College of Arts and Sciences offers a variety of liberal arts programs leading to the Bachelor of Arts and Bachelor of Science degrees, a two-year program leading to the Associate in Arts degree in Nursing, and a graduate program in Marine Biology leading to the Master of Science degree. The fourteen academic departments of the College provide courses of study in the fine arts and humanities and in the physical, biological, and social sciences. Degree requirements for all undergraduate concentrations available in the College of Arts and Sciences are listed below by departments. Requirements for the Master of Science degree are listed in the Graduate Studies section.

DEPARTMENTAL REQUIREMENTS

ANTHROPOLOGY

(See Sociology and Anthropology)

ART

(See Creative Arts)

BIOLOGY

Dr. Merritt, *chairman*. Mr. F. Allen, Dr. Bane, Dr. Biggs, Mr. Dermid, Dr. Dunn, Dr. George, Dr. Fugler, Dr. Hosier, Dr. Kapraun, Dr. Lindquist, Dr. Lundeen, Dr. McCrary, Dr. Mintzes, Dr. Padgett, Dr. Parnell, Dr. Plyler, Dr. Roer, Dr. Roye, Dr. Shafer, Dr. Sieren.

Requirements for a concentration in Biology for the B.A. degree: Basic core requirements are Biology 105, 205, 206 and 208 which must be taken within the first four semesters. In addition to these requirements, there are two options described below, one of which a student must elect in order to complete the degree requirements.

Option 1.

Biology 495 and a minimum of 23 hours chosen from Biology 235 and courses numbered above 299 of which at least 4 hours must be in advanced Botany and 4 hours in advanced Zoology offerings; Chemistry 101-102 with lab or 105-106-102 with lab; a minimum of

16 hours chosen from the listed courses in at least two of the following areas: Chemistry 311, 312, 333; Computer Science 105, 111, 115; Geography 432, Geology 105, 115, 205, 305; Mathematics 211, 212, 213, 225, 226; Physics 101 or 105, 102, 201, 202, 260; Psychology 456, 457; Statistics 215. With the advance approval of the faculty advisor and the department chairman, other courses may be substituted for the collateral electives listed above. A "C" or better average on Biology courses above 299.

This option is a flexible program which can be designed by a student and an advisor to meet personal educational goals and interests which may or may not include graduate study; the program may be used to meet a set of specific requirements, for example, certification for teaching at the secondary school level.

Option 2.

Biology 366, 475, 495; at least two of the following: Biology 356, 357, 456, 457; a minimum of 8 hours chosen from Biology 315, 316, 335, 345 or 355, 375, 377, 466, 491; Chemistry 101-102 with lab or 105-106-102 with lab; a minimum of 16 hours chosen from Chemistry 311, 312; Mathematics 111, 112; Geology 105, 115; Geography 432; Psychology 457; Statistics 215; Computer Science 105, 111. With the advance approval of the faculty advisor and the department chairman, other courses may be substituted for the collateral electives listed above. A "C" or better average on Biology courses above 299.

This option is designed for students interested in studying freshwater and terrestrial higher plants and animals and who will pursue graduate study and/or careers in such fields as systematics, ecology, fish and game management, and nature interpretation in parks and wilderness areas.

Requirements for a concentration in Biology for the B.S. degree: Basic core requirements are Biology 105, 205, 206 and 208 which must be taken within the first four semesters. Biology 315 or 375 or 474, 335 with lab, 345 or 355 or 347 with lab, 366, 495, and a minimum of 6 additional hours in courses numbered above 299. Of these 6 hours at least 3 hours must be in advanced Botany and 3 hours in advanced Zoology offerings. Collateral requirements are Chemistry 101-102 with lab or 105-106-102 with lab, 311-312; Physics 101-102 or 201-202; Mathematics 225 and Statistics 215. Students planning to attend graduate school are urged to take Chemistry 335, Mathematics 226, Computer Science 111 and 115, 116 or 118, and French 201-202 or German 201-202. A "C" or better average on Biology courses above 299.

This degree program is designed for those students who plan to attend graduate school or seek employment in various fields of biological specialization.

Requirements for a concentration in Marine Biology for the B.S. degree: Basic core requirements are Biology 105, 205, 206 and 208 which must be taken within the first four semesters. Biology 362, 366, 345 or 355 or 347 with or without a lab; 315 or 316 or 335 with or without lab or 474; 495; a minimum of 8 hours selected from the following: 365 or 481, 446 or 472, 457, 458, 462, 468. Collateral requirements are Chemistry 101-102 with lab or 105-106-102 with lab; Geology 205; Physics 101-102 or 201-202; Mathematics 111-112 or 115-225 or a higher sequence; a minimum of 4 semester hours chosen from Chemistry 311, 312, 333, 335; Computer Science 111, 115; Earth Sciences 230; Geography 430, 432; Geology 105, 305, 330; Statistics 215. A "C" or better average on Biology courses above 299.

CHEMISTRY

Dr. Levy, *chairman.* Dr. L. Adcock, Dr. Cahill, Dr. Hart, Dr. Hornack, Dr. Martin, Dr. Nance, Dr. Sayed, Dr. Ward, Dr. Willey.

Requirements for a concentration in Chemistry for the B.A. degree:

Core courses: Chemistry 101-102, 101-51, 102-51, 311-312, 311-51, 312-51, 325, 325-51, 333 and 333-51 or 335 and 335-51, 355, 445, 495 or Environmental Studies 495, Mathematics 225-226, and Physics 101-102 or 201-202.

Also required are the courses in one of the following emphasis alternatives:

Premedical Science: Chemistry 417 and 465 and Biology 105, 206, and 315.

Marine Science: Chemistry 375, Biology 105, Geology 105 and 205, and either Biology 362 or Geology 305.

Environmental Science: Chemistry 377, Biology 105, Environmental Studies 195, Geology 120, and Statistics 215. Among the required core courses, Chemistry 333 and 333-51 and Environmental Studies 495 must be elected.

Industrial Chemistry: Chemistry 315-316 or 435 and 435-51, Chemistry 377 and 385, Accounting 201-202, Business 207 or Statistics 215, and Business 303 or Computer Science 111.

Education: Education-Psychology block of 31 semester hours, Biology 105, and three of the following courses: Biology 205 and

206; Geology 105, 120, and 205; and Physics 106 and 260.

A "C" or better on each Chemistry course.

Requirements for a concentration in Chemistry for the B.S. degree:

Chemistry 101-102, 101-51, 102-51, 311-312, 311-51, 312-51, 315-316, 321-322, 321-51, 322-51, either 333 and 333-51 or 335 and 335-51, 355, 435, 435-51, 445; either 445-51, 467, or 491 (1 hour); 495, and two of the following: 415, 417, 446, 465, and 491 (3 hours). Physics 201-202 and Mathematics 211, 212, 213, and 315. A "C" or better on each Chemistry course. Students working for the B.S. degree should arrange their work so as to take Chemistry 321-322 in the junior year. Two years of German are recommended.

COMPUTER SCIENCE

(See Mathematical Sciences)

CREATIVE ARTS

Mr. W. Adcock, Dr. Burkholder, Dr. Case, Miss Conner, Dr. Deas, Mrs. Fitzgibbon, Dr. Kechley, Dr. Lueft, Dr. S. Martin, Dr. Rogers, Dr. Rosenthal, Mr. Swink, Mrs. Tallant, Dr. Theodore, Mrs. Welch.

The Department of Creative Arts is made up of the following divisions: Art, Drama, Music, and Speech Communication. The department offers concentrations leading to the B.A. degree in (1) Creative Arts in Art, Drama, and Music, and (2) Speech Communication.

ART

Requirements for a concentration in Creative Arts-Art for the B.A. degree:

Art 111-112, 141, 142, 143, 144; 18 hours to be chosen from two studio areas, 1 hour of technical skills, 1-3 hours of senior exhibition; 6 hours of Art History; one history course from each of the following areas: Drama 321, 322, Music (2); 6 hours to be chosen from practical or theoretical courses in Drama or Music (histories not included). Electives chosen in consultation with the advisor. A "C" or better grade in all courses taken to meet the Creative Arts degree requirements.

DRAMA

Requirements for a concentration in Creative Arts-Drama for the

B.A. degree:

Communication 105, Drama 321, 322, 461, 462, 485, and at least 19 other hours in Drama; one Art history course from 201, 202, 203 and one Music history course from 211, 212, 213, and six additional hours in either Art or Music (histories not included). Electives chosen in consultation with advisor. A "C" or better grade in all courses taken to meet the Creative Arts degree requirements.

MUSIC

Requirements for a concentration in Creative Arts-Music for the B.A. degree:

Music 101-102, 201-202, 301-302, six semesters of applied music; six semesters of participation in a major ensemble (Mus 085, 086, or 087. Pianists may substitute two semesters of Mus 082); recital or thesis. Music 211, 212, 213; 3 hours of History from each of the two following areas: Drama 321, 322, or Art. Six additional hours to be chosen from Drama or Art (histories not included). Electives chosen in consultation with advisor.

A "C" or better grade in all courses taken to meet the Creative Arts degree requirements. Satisfactory completion of piano proficiency examination is required of all students.

Those who do not pass the proficiency examination upon entering the music program are required to take piano class until the level of proficiency in the examination has been reached. Attendance at weekly music department seminars is required.

Admission to the music program requires an audition, interview, and theory placement test.

LISTENING EXAMINATION

Each student will be required to pass the Basic Repertory Listening Exam which will be given each semester: freshman, sophomore, junior, senior. Each student will be required to take, and pass with a minimum grade of 70, that section of the test which corresponds to his student classification to continue in the program.

PIANO PROFICIENCY EXAMINATION

1. Prepare from memory one piece (as found in *Piano Methods for Adults* by Bastien-Bastien) on the level of:
   Minuet in F major — Mozart
   Minuet in G — Bach
   Sonatina in C major — Clementi
   Sonatina in C, Op. 157, No. 1 — Spindler
2. Sight Reading: Material appropriate to the level as described above.

3. Arpeggios: All major and minor arpeggios hands together, 2 octaves, ascending & descending.
4. Triads: To be played hands together, all major and minor triads, root position, first inversion, second inversion, ascending and descending — basic cadential progressions, including secondary dominants and modulation.
5. Scales: All major and minor scales, hands together, 2 octaves ascending & descending.
6. Harmony: Students will be required to harmonize at sight simple folk songs with appropriate accompaniment.

SPEECH COMMUNICATION

Requirements for a concentration in Speech Communication for the B.A. degree:

Communication 105, 221, 230, 275, 340; Anthropology 208; English 311, 312; Philosophy and Religion 110; Psychology 365, 410; and six hours of Modern Language or Computer Science Language. The collateral area (18 hours) will be determined individually in consultation with the advisor. A grade of "C" or better on all required courses in the concentration.

CRIMINAL JUSTICE

(See Sociology and Anthropology)

DRAMA

(See Creative Arts)

EARTH SCIENCES

Dr. William Harris, *chairman*. Dr. Ainsley, Dr. Cleary, Mr. Dempsey, Mr. Hall, Dr. Huntsman, Dr. Hyers, Dr. Randall, Dr. Ressetar, Dr. Thayer, Dr. Zullo.

The Department of Earth Sciences offers concentrations which permit the student to select one of three programs preparing him for advanced studies or for teaching, research and technical careers available to one who holds the baccalaureate degree.

Requirements for a concentration in Earth Sciences for the B.A. degree:

Earth Sciences 230, 390, 490, 495; Geography 135, Geology 105; 7 to 9 hours from Geography 330, 335, 430, 432; and 7 to 8 hours from Geology 115, 205, 215, 216, 217, 315. Collateral requirements are Chemistry 101-102; Physics 101-102; and Statistics 215. A "C" or better average on all courses taken within the department.

Requirements for a concentration in Geography for the B.A. degree:

Geography 135, 145, 215, 330; Earth Sciences 390, 495; and at least 18 additional hours in Geography. Collateral requirements are Geology 105, Statistics 215, and at least 15 hours selected from Anthropology, Biology, Chemistry, Computer Science, Earth Sciences, Economics, Geology, History, Mathematics, Physics, Political Science, Psychology and Sociology. A "C" or better average on all courses taken within the department. Students planning to attend graduate school are urged to take Computer Science 111, Mathematics 111-112 or 115, and French 101-102 or German 101-102.

Requirements for a concentration in Geology for the B.A. degree:

Geology 105, 115, 215, 216, 217, 315, 316, 330; and Earth Sciences 230, 390, 495. Collateral requirements are Chemistry 101-102, Statistics 215, and 8 hours selected from Biology, Chemistry, Computer Science, Earth Sciences, Geography and Physics. A "C" or better average on all courses taken within the department. Students planning to attend graduate school are urged to take Computer Science 111, Mathematics 211-212, French 101-102 or German 101-102, Geography 135 and a summer field course in Geology offered by another institution.

ENGINEERING

(See Earth Sciences)

ENGLISH

Dr. Dodson, *chairman*. Dr. Brannon, Dr. Carter, Dr. Clifford, Dr. Collier, Dr. Corbett, Miss Ellis, Mrs. Foushee, Mr. McCall, Dr. Parish, Mrs. Pearsall, Mrs. Pferrer, Dr. Rosselot, Dr. Seiple, Dr. Stokes, Dr. Sullivan, Dr. Veit.

Requirements for a concentration in English for the B.A. degree:

English 211, 212, and 30 hours at the 300-400 level, including one American literature course, one Shakespeare course, 460, one course in the English language, one course in expository writing, and five electives. For teacher certification, the electives must include 305 and 306. Fifteen hours of collaterals selected from the following: Art 201, 202, 203, 306; Communication 105, 465; Drama 221, 222, 225; Music 115, 116; or any courses offered by the Departments of Modern Languages (except French 105 and Spanish 105 and 205), History, and Philosophy and Religion. A "C" or better average in English courses.

ENVIRONMENTAL STUDIES

Dr. Bane, *chairman.* Dr. L. Adcock, Dr. W. Hall, Dr. H. Hernandez, Dr. Hosier, Dr. Jackson, Dr. Johnston, Dr. Loftfield, Dr. Norris, Dr. Thayer.

Requirements for a concentration in Environmental Studies for the B.A. degree:

Core: Environmental Studies 195, 495; Statistics 205 or 215; and Computer Science 111. Four courses representing four different disciplines selected from: Chemistry 333 (EVS 333); Physics 106 (EVS 106); Biology 205 or 206; Geology 105 or 120; Geography 135. Three courses representing three different disciplines from: Political Science 304, 308; Sociology 205 or Anthropology 350; Psychology 370 (EVS 370); Economics 305 (EVS 305).

Specialization: A minimum of 20 hours, taken from one of four options. All course sequences must be above the 299 level and approved by the Environmental Studies Chairman. A "C" or better average is required. Option (1) Marine Science: A sequence of courses including Biology 362, 466; Geology 205, 305, and Geography 432. Option (2) A disciplinary course sequence with an emphasis restricted to one of the following: Biology, Chemistry, Economics. Earth Sciences, Mathematical Sciences, Physics, Political Science, Psychology, Sociology. Option (3) A substantive interdisciplinary sequence selected from either (a) The Natural and Mathematical Sciences or (b) The Social and Managerial Sciences. Option (4) A topical multidisciplinary approach in which the student in conjunction with his advisor and the Environmental Studies Chairman designs his own specialization in order to investigate a specific environmental topic. The student will choose courses appropriate to the investigation and write a senior paper (EVS 490) at the completion of the project.

FRENCH

(See Modern Languages)

GEOGRAPHY

(See Earth Sciences)

GEOLOGY

(See Earth Sciences)

HEALTH, PHYSICAL EDUCATION AND RECREATION

Dr. Miller, *chairman*. Mr. D. Allen, Dr. E. Allen, Mrs. Blake, Mr. Brooks, Mr. Chapman, Miss Christoph, Mr. Davis, Mr. Gibson, Mr. Guthrie, Mr. Holdt, Dr. Hollifield, Mr. Honeycutt, Mr. Lane, Dr. Larson, Mrs. Lewis, Mr. Middleswarth, Ms. Peel, Dr. Wolff.

Requirements for a concentration in Health and Physical Education for the B.A. degree: Physical Education: 101, 102, 105, 215, 220, 221, 222, 235, 305, 306, 320, 349, 355, 386, 387, 415, 420, 435, minimum of three activities selected from 223, 224, 225, and 226. Required collaterals: Biology 105, 206; and Education and Psychology courses required for teacher certification. A "C" or better grade in all required Physical Education, Education and Psychology courses.

Requirements for a concentration in Parks and Recreation Management for the B.A. degree:

Core Courses*: Recreation 265, 266, 267, 268, 360, 365, 368, 465, 469, 491.

Recreation for Special Populations option: Recreation 369, 370, 468; Physical Education 215, 349. Required collaterals (12 hours): Education 260; Sociology 325, 335; Social Work 396.

Outdoor Recreation option: Recreation 366, 470, 471. Required collaterals (12 hours): Biology 206, 356, 475.

A grade of "C" or better on all required Recreation and Physical Education courses.

*Note: Core course requirements are currently under review and are subject to change. Students interested in the concentration in Parks and Recreation Management should consult the Department of Health, Physical Education and Recreation for information regarding requirements.

HISTORY

Dr. McLaurin, *chairman*. Mr. W. Allen, Dr. Cooper, Dr. Crowgey, Dr. Fink, Mr. Haley, Dr. McGuire, Dr. Moseley, Dr. Schneider, Dr. Toplin, Dr. Usilton, Dr. Watson.

Requirements for a concentration in History for the B.A. degree: History 111, 112, 231, 232; an additional 24 hours in History (with a minimum grade of "C") at the 300-400 level. Students may take three hours at the 200 level in addition to History 231 and 232, and are required to take at least 3 hours at the 400 level. Upper level work should encompass a broad range rather than specialization

within one area of history, and students are expected to complete the required lower level courses before upper level ones. Required collaterals include 21 hours selected from departmentally-approved courses in at least 4 of the following areas: English, Modern Languages, Philosophy and Religion, Anthropology, Economics, Geography, Political Science and Sociology. History majors working toward certification in Social Studies for secondary school teaching must complete a minimum of 21 hours in Anthropology, Economics, Geography, Political Science and Sociology with courses in at least 3 areas.

MARINE BIOLOGY

(See Biology)

MATHEMATICAL SCIENCES

Dr. Toney, *chairman*. Mr. Brown, Dr. Burkhart, Dr. Crews, Dr. Dankel, Dr. Etheridge, Dr. Frierson, Dr. Greim, Dr. Gurganus, Dr. Halsey, Dr. Hernandez, Mr. Long, Mr. Lupton, Dr. McLaurin, Dr. Norris.

Requirements for a concentration in Computer Science for the B.S. degree:

Core Requirements: Computer Science 111, 211, 245, 311, 331, 332, 340; Mathematics 115 and 211-212-213 or 225-226; Statistics 361; and one programming course chosen from Computer Science 115, 116, 117 and 118. In addition to the core requirements there are three options below, one of which a student must complete in order to fulfill the degree requirements. In general, enough latitude is allowed in each to accommodate a double major if the student wishes.

Scientific: Computer Science 325, 425, 431, 432; Mathematics 315, 335; and Physics 201-202.

Systems: Computer Science 325, 410, 415, 435; Mathematics 335, 336; and Physics 201.

Business: Computer Science 117, and three hours at the 300-400 level approved by the advisor; Accounting 306; Business 304, 355, 357; and two courses chosen from Business 335, 345, 406 and Economics 420, 417.

A "C" or better average is required on Computer Science courses at the 300-400 level.

Requirements for a concentration in Mathematics:

1. B.A. degree with teacher certification in Mathematics:

Mathematics 115, 211-212-213, 275, 335, 336, 345, 346, 411, and one additional 300-400 level Mathematics course; Computer Science 111; Statistics 361; Physics 201-202; and Education and Psychology courses required for teacher certification.

II. B.A. degree in Mathematics:
Mathematics 115, 211-212-213, 275, 335, 336, 411, 495, and three additional 300-400 level Mathematics courses; Computer Science 111; Statistics 361; Physics 201-202; and two 300-400 level collateral courses chosen from fields in which Mathematics is applied.

III. B.S. degree in Mathematics (applied):
Mathematics 115, 211-212-213, 275, 315, 325, 335, 411-412, 428, and two courses chosen from Mathematics 421, 423, 465; Computer Science 111; Statistics 361; Physics 201-202; and three 300-400 level collateral courses chosen from a single discipline different from Mathematics (e.g., Computer Science, Chemistry, Environmental Studies, Statistics). This program is recommended for students preparing for a field requiring an enthusiasm for the development and utilization of mathematical models and applications.

IV. B.S. degree in Mathematics:
Mathematics 115, 211-212-213, 275, 315, 335, 336, 411-412, 495, and three additional 300-400 level Mathematics courses; Computer Science 111; Statistics 361; Physics 201-202; and three 300-400 level collateral courses. This program is recommended for students preparing for graduate study or desiring an especially strong scientific and Mathematics background.

A "C" or better average is required on Mathematics courses at the 300-400 level.

Note: Collateral courses required in the four programs in Mathematics must be chosen from departmentally approved courses which, together with the student's Mathematics courses, comprise a coherent program. Normally a proposed program of study should be submitted to the department for approval prior to the beginning of the student's junior year.

MEDICAL TECHNOLOGY

(See Professional Programs)

MODERN LANGUAGES

Dr. Beeler, *chairman*. Mrs. Bellamy, Mrs. Cheek, Mr. Lowe, Dr. Mount, Dr. Perez, Dr. Sparks, Mr. Stites, Dr. Woodhouse.

The Department of Modern Languages offers the B.A. degree in French or Spanish.

Requirements for a concentration in French for the B.A. degree:

Completion of all 300 level courses in French and at least two courses on the 400 level. A "C" or better grade in each course taken in the area of concentration, or a better than 2.0 average on all courses taken in the area of concentration. Required collaterals: Modern Language 305; History 111 and 112; one course in English literature; and one additional foreign language through the intermediate level.

Requirements for a concentration in Spanish for the B.A. degree:

Completion of all 300 level courses in Spanish and at least two courses on the 400 level. A "C" or better grade in each course taken in the area of concentration, or a better than 2.0 average on all courses taken in the area of concentration. Required collaterals: Modern Language 305; History 111 and 112; one course in English literature; and one additional foreign language through the intermediate level.

A student who offers two high school units in French, German or Spanish, and who wishes to continue the study of the same language, will normally begin at the intermediate level. However, a student whose language placement test scores and high school language grades are not satisfactory will be placed in and granted credit for the elementary level. A student who offers three or more high school units in French, German or Spanish, and whose placement test scores are sufficiently high, may gain admission to the 300 level courses in the language.

MUSIC

(See Creative Arts)

NURSING

Miss Gilliland, *acting director*. Mrs. Barfield, Mrs. Brogden, Mrs. Kemppainen, Mrs. Lowe, Miss Majette, Mrs. Otto, Mrs. Stone, Mrs. Wright.

Requirements for a concentration in Nursing for the A.A. degree:

Nursing 110, 120, 135, 220, 225, 250, English 101, 102; Psychology 145, 220; Sociology 105; Biology 215, 225; Chemistry 107; an

elective from the Humanities or Creative Arts.

Completion of the program of studies requires a grade of "C" or better in each course carrying a Nursing title plus a "Satisfactory" on performance in all clinical laboratory work.

PHILOSOPHY AND RELIGION

Dr. Megivern, *chairman*. Dr. Arway, Dr. Curry, Dr. Hall, Mr. Martin, Dr. McGowan, Dr. Rensma, Dr. Schmid, Dr. Shelburne, Dr. Shinn.

Requirements for a concentration in Philosophy and Religion for the B.A. degree:

Philosophy and Religion 101, 110, 201, 202, and 21 additional hours, including 9 at the 300-400 level, six of which must be at the 400 level. Collateral courses will be determined in individual consultation with the advisor.

PHYSICAL EDUCATION

(See Health, Physical Education and Recreation)

PHYSICS

Dr. Clator, Dr. Haywood, Dr. Hernandez, Mr. Nelson, Dr. Olszewski.

Requirements for a concentration in Physics for the B.A. degree:

Physics 201-202, any two from 315, 321 and 335; 400 (2 hrs.), and 9 additional hours as recommended by the advisor; Mathematics 225-226; 1 semester of Computer Science; Chemistry 101. A "C" or better average in Physics courses at the 300-400 level.

Requirements for a concentration in Physics for the B.S. degree:

Physics 201-202, 315-316, 321-322, 335-336, 400 (3 hours), 495 (1 hour), and 6 additional hours in Physics as recommended by the advisor; Mathematics 315, 316 and 3 additional hours above the calculus; 2 semesters of Chemistry. A "C" or better average in Physics courses at the 300-400 level.

POLITICAL SCIENCE

Dr. Dixon, *chairman*. Dr. Ahmad, Dr. Bulmash, Dr. Johnston, Dr. Lowery, Dr. Wagoner.

Requirements for a concentration in Political Science for the B.A. degree:

Thirty-six hours of Political Science which must include 111, 205, and 211. Twenty-four hours must be at the 300-400 levels and at least one 300-400 level course must be taken in each of the follow-

ing sub-fields: American Government and Politics, Political Theory and Methodology, International Relations, and Comparative Government.

A "C" or better average on all 300-400 level Political Science courses.

Required collaterals: Twenty-four hours selected from at least four of the following disciplines: Anthropology, Economics, Environmental Studies, Geography, History, Psychology, and Sociology. In addition, a research skill is required. This can be demonstrated by either of the following methods: passing the Statistics in the Social Sciences course offered by the Mathematics Department or passing six semester hours in one of the modern foreign languages.

Students planning to do graduate work are urged to study a modern foreign language and acquire a basic knowledge of computer science, statistics and mathematics through the calculus.

PSYCHOLOGY

Dr. Williams, *chairman*. Dr. Awkard, Dr. Bradley, Dr. Brown, Dr. Galizio, Dr. Gerstenhaber, Dr. Jackson, Dr. Kishton, Dr. Kowal, Dr. Lamb, Dr. Newton, Dr. Overman, Dr. Weeks.

Requirements for a concentration in Psychology for the B.A. degree:

Psychology 105, 225, 355, 405 and a minimum of 24 additional hours. These must include at least two courses from among 346, 347, 365, 370, 425, and 465, and at least two from among 310, 410, 417, 420, 456, and 457. Twelve hours of collaterals from related fields and approved by the advisor are required. A "C" or better average on the eight specified courses and on all courses attempted within Psychology.

RECREATION

(See Health, Physical Education and Recreation)

SOCIAL SCIENCE

Participating disciplines: Anthropology, Earth Sciences, Political Science, Psychology, and Sociology.

Requirements for a concentration in Social Science for the B.A. degree:

Forty-eight hours in the Social Sciences. Work must be taken in at least 3 areas with a minimum of 21 hours in one area and 12

hours in a second area of concentration. A minimum of 30 hours must be in courses above 299. Required collaterals: 6 hours in History and 3 hours in an introductory statistics course (Statistics 205 or a departmental equivalent chosen from the student's major field).

SOCIAL WORK

(See Sociology and Anthropology)

SOCIOLOGY AND ANTHROPOLOGY

Dr. Faulkner, *chairman*. Mrs. Blanks, Dr. Dixon, Mr. Fields, Dr. Lottfield, Dr. McCall, Dr. D. Miller, Dr. R. Miller, Dr. Polgar, Dr. Sabella, Dr. Scalf, Dr. Wells, Dr. Willis.

Requirements for a concentration in Sociology for the B.S. degree:

Sociology 105, 306, 307, 455, 490, and 18 additional hours, 12 of which must be at the 300-400 level; Computer Science 105, Statistics 205. Additional knowledge of computer science and mathematics through calculus are recommended, particularly for those students who plan to attend graduate school. Collaterals will be decided upon in consultation with each advisee. A "C" or better average on each 300-400 level departmental course required of majors.

The major specializations represented in the department are Sociology, Anthropology, Social Work, and Criminal Justice. Within Sociology some areas of emphasis are deviance, environmental studies, planning, change, population and urban ecology.

The department does offer some alternatives to the above requirements for students who opt to specialize in areas such as Social Work, Criminal Justice or Anthropology. These alternatives are periodically being updated and are always available in the department.

SPANISH

(See Modern Languages)

SPEECH COMMUNICATION

(See Creative Arts)

SCHOOL OF BUSINESS ADMINISTRATION

Norman R. Kaylor, *Dean*

The School of Business Administration of The University of North Carolina at Wilmington has planned its courses and curricula to be of use to the graduate in a position of responsibility as an owner of an independent business enterprise or as an employee at the decision-making level in private business or in government and other non-profit organizations.

The primary function of the School of Business Administration is to teach students the basic body of knowledge they will need to enter a career in business or government and to promote the development of proficiency in practical application. The academic programs provide graduates with career opportunities in manufacturing and service organizations, marketing and sales, government, accounting firms, banks and other financial institutions. The graduate is also prepared to enter law school and graduate programs in public administration as well as for graduate study in accounting, business administration, and economics. As complementary functions, the School of Business Administration undertakes research in appropriate areas and provides related services to business and governmental units.

The B.S. degree is offered in three areas of concentration: Accounting, Business Administration, and Economics. The B.A. degree with a concentration in Economics is offered for those students who want to study Economics in the liberal arts tradition.

Students may qualify for the B.S. degree by successfully completing the requirements as stated under Academic Regulations and Procedures, the courses designated for the degree program and a minimum quality point average of 2.0 in all courses attempted in the School of Business Administration. The B.A. degree requires this minimum quality point average in all Economics courses attempted and in the combined concentration and collateral courses attempted.

ACCOUNTING

Mr. Appleton, *coordinator*. Dr. Kaylor, Ms. Sawyer, Ms. Wilson, Mr. Zeko.

The B.S. degree with a concentration in Accounting provides a student with the analytical foundation of the discipline of Accounting. Included are the special tools and techniques of planning and control using financial and managerial accounting, income taxes,

cost analysis, and systems.

Students establish qualifications for careers as professional certified public accountants, and in industrial, governmental, and other positions requiring managerial and analytical skills. The accounting concentration provides an excellent background for graduate or other professional education.

The elements of planning, administration, and control covered in the Accounting courses are essential to all areas of business. Many of the courses offered benefit students concentrating in other fields by furnishing a comprehensive background of business procedures and financial relationships. Likewise, students concentrating in Accounting find it advantageous to elect as many courses as possible in other areas of business, especially in the quantitative fields.

A graduate of the School of Business Administration who has completed a concentration in Accounting is permitted by the State Board of Accountancy of North Carolina to write the CPA examination. The student is also qualified by The Institute of Management Accounting to write the CMA examination.

Students must earn a minimum quality point average of 2.0 in all Accounting courses attempted in the School of Business Administration.

Requirements for a concentration in Accounting for the B.S. degree:

(a) Foundation courses: Mathematics 225; Accounting 201-202; Business 207; Economics 251 and 252.
(b) Business and Economics core: Business 303, 304, 335, 355, 453 or 455, 461-462, and Economics 336.
(c) Accounting 301-302, 305, 308, 407, and two courses from the following: Accounting 401, 402, 403, and 408.

BUSINESS ADMINISTRATION

Dr. Harper, *coordinator*. Dr. Anderson, Mr. Badarinathi, Mr. Burke, Dr. Hunter, Mrs. Marshall, Dr. Sherman, Dr. West.

The Business Administration curriculum provides the academic preparation for management careers in product and service organizations and not-for-profit institutions. The B.S. degree program with a concentration in Business Administration is based upon a broad educational foundation combined with courses in Accounting, Business and Economics. It is designed for those students who wish to prepare for careers in business but also for students who wish to pursue other professions, such as law.

The School of Business Administration recognizes that business is an all encompassing title. Therefore, students are permitted some latitude in selecting courses. Some specialization is permitted whereby a student may select an emphasis in one of the major functional areas of business, either Management, Marketing or Finance. A student not selecting an emphasis in a functional area may elect a general study of business.

Within the field of Management the student will elect courses in personnel, industrial relations and administration and should consider courses in Economics, Psychology, Sociology and Computer Science.

The Marketing curriculum offers courses in the traditional areas such as marketing channels, sales management, advertising and marketing research. The manager must be able to translate knowledge of consumer behavior into terms of product development. The Marketing curriculum is broad enough to permit a student to develop knowledge in these several areas but flexible enough so that insights may be directed toward special interest areas.

The field of Finance consists of three separate but related areas — business finance, investments, and financial institutions. The Finance curriculum prepares students for graduate study or for careers in corporate financial management, the investments and securities business, and the management of banking and nonbank financial institutions. The generalized applicability of finance and the basic tools of financial analysis are emphasized in the program, and the student should consider courses in Accounting, Management and Economics.

The general business curriculum permits the student to tailor a program to special needs, such as real estate, management science and computer science, and transportation.

Requirements for a concentration in Business Administration for the B.S. degree:

(a) Foundation courses: Mathematics 225, Accounting 201-202, Business 207, Economics 251 and 252.

(b) Business and Economics core: Accounting 306, Business 303, 304, 335, 345, 355, 357, 455, 461-462, and Economics 336.

(c) Four courses selected from Accounting, Business, and/or Economics courses numbered above 299.

ECONOMICS

Dr. Hill, *coordinator*. Dr. Carter, Dr. Farrell, Dr. Hall, Dr. Margolis.

The Economics concentrations prepare for careers which emphasize an understanding of the operation of the economy and the proper choice of policies by both government and business enterprises. Where the Economics concentrations represent a more general area of study, the student is prepared to enter government service, industry or to pursue a graduate program in Economics, Business, Public Administration or other social science disciplines.

The B.S. degree program in Economics is designed to provide orientation of the individual and the firm in the economic society. The student is required to supplement the study of Economics with a variety of Business and Accounting courses.

The B.A. degree program in Economics is designed for the student who wants to study Economics in the liberal arts tradition. The study of a wide variety of Economics courses is supplemented by a study of History and the Social Sciences.

Both degree programs develop an understanding of contemporary economic problems and institutions and provide a study of economic issues both in an historical setting and under conditions of change.

Requirements for a concentration in Economics for the B.S. degree:

(a) Foundation courses: Mathematics 225, Accounting 201-202, Business 207, Economics 251 and 252.
(b) Business and Economics core: Business 303, 304, 335, Economics 315, 316, and 495.
(c) Four courses in Economics from the following: Economics 305, 327, 338, 401, 417, 420, 426, 427, 428, and 446.
(d) Five courses to supplement the study of Economics. These courses must include at least three courses from Accounting and Business courses numbered above 299.

Requirements for a concentration in Economics for the B.A. degree:

(a) Foundation courses: Communication 105, Mathematics 225, and either Business 207 or Statistics 205.
(b) Concentration courses: Economics 315, 316, 327, 338, 401 or 426, and 495, plus six additional hours in Economics courses numbered above 299.
(c) Collaterals: Twenty-one hours from at least two of the following: Anthropology, Geography, History, Political Science, Psychology, Sociology. A minimum of six hours must be taken in at least two areas, and at least nine hours must be in courses numbered above 299.

SCHOOL OF EDUCATION

Roy E. Harkin, *Dean*

Faculty: Dr. Applefield, Dr. Bachner, Dr. Bartolome, Dr. Burton, Dr. Cleare, Dr. Doss, Dr. Ellis, Dr. A. Hayes, Dr. H. Hayes, Dr. Hodge, Dr. Hulon, Dr. Jones, Dr. Klein, Dr. Meyers, Mrs. Stike, Mrs. Wright, Dr. Wagoner.

The School of Education of The University of North Carolina at Wilmington offers programs of study leading to the Bachelor of Arts degrees in Elementary Education and Special Education and programs leading to secondary teacher certification.
(Graduate programs offered by the School of Education are described in the Graduate Studies section of this catalogue.)

Within the Elementary Education program, a student may concentrate in Early Childhood Education, which leads to teacher certification in kindergarten through grade three, or in Intermediate Education which leads to certification to teach in grades four through nine.

The Special Education program prepares teachers to serve mildly handicapped children in grades kindergarten through twelve and in various other service agencies, and leads to professional certification in two areas of exceptionality: learning disabilities and mental retardation.

Each degree program is designed to meet North Carolina State Board of Education guidelines for teacher certification and includes recommended courses in the basic studies requirements, professional education and collateral courses, and a content specialization area.

Requirements for the Elementary Education degree program are as follows:

Common Requirements for Early Childhood and Intermediate Education

*Basic Studies**

Basic Skills
- English 101, 102
- Appropriate Mathematics course
- Physical Education 101, 102

Divisional Requirements

Humanities
- Literature (3 semester hours)
- Two of History 111, 112, 231, 232 (6 semester hours)

Creative Arts
Art 201, 202, or 203 (3 semester hours)
Music 105 or 115 (3 semester hours)

Natural Science and Mathematics
Laboratory science
Mathematics

Social and Behavioral Sciences
Political Science 205
One of the following:
Anthropology 105, 205; Economics 105; Psychology 105, 145; Sociology 105, 205, 215.

Collateral Requirements

Art 385, *Art in the Elementary School*
Communication 105, *Fundamentals of Speech*
Music 325, *Music Education for Elementary Teachers*
Physics 305, *Science for Elementary Teachers*

Professional Core
Psychology 216, *Educational Psychology*
Psychology 220, *Child Psychology*
Education 200, *Teacher, School, and Society*
Education 201, *Instructional Program Development I*
Education 202, *Instructional Program Development II*
Education 408, *Instructional Methods*
Education 409, *Practicum*

*Courses listed under Basic Studies are selected to meet North Carolina State Board of Education guidelines for elementary teacher certification and to satisfy *partially* University Basic Studies requirements. For a complete description of University Basic Studies requirements see page 75. Students should take care to assure that all courses selected to satisfy Basic Studies requirements are acceptable for that purpose under University policy stated on page

Concentration in Early Childhood Education

Professional Education

Education 250, *Reading Foundations (K-9)*
Education 322, *Teaching of Mathematics (K-3)*
Education 330, *Science/Social Studies Methods (K-3)*
Education 344, *Books, Materials & Media for Early Childhood Education*

Education 348, *Communication Arts: Reading/Language Arts (K-3)*
Physical Education 304, *Health and Safety Education (K-9)*
Physical Education 386, *Physical Education in the Primary School (K-3)*

Content Specialization

A total of eighteen semester hours, including courses used to fulfill Basic Studies and Collateral Requirements, from one of the following areas:

Art	Psychology
Health and Physical Education	Science
Language Arts	Social Studies
Mathematics	Special Education
Music	

Concentration in Intermediate Education

Professional Education

Education 250, *Reading Foundations (K-9)*
Education 323, *Teaching of Mathematics (4-9)*
Education 335, *Teaching of Social Studies (4-9)*
Education 336, *Teaching of Science (4-9)*
Education 351, *Reading/Language Arts Methods for the Middle School (4-9)*
English 345, *Literature for Youthful Readers*
Physical Education 304, *Health and Safety Education (K-9)*
Physical Education 387, *Physical Education in Intermediate Grades (4-9)*

*Content Specialization**

A total of 18 semester hours, including courses used to fulfill Basic Studies and Collateral Requirements, from one of the following areas:

Art	Music
Health and Physical Education	Science
Language Arts	Social Studies
Mathematics	Special Education

*North Carolina Board of Education teacher certification guidelines for Intermediate Education recommend that Language Arts, Mathematics, Science, and Social Studies be given priority in selecting a concentration. Other areas listed are suggested as second concentrations.

A grade of "C" or better is required in all courses in the Elementary Education Professional Core and Concentration.

Requirements for the Special Education degree program are as follows:

Basic Studies

Basic Skills
- English 101, 102
- Appropriate Mathematics course
- Physical Education 101, 102

Divisional Requirements

Humanities
- Two of History 111, 112, 231, 232
- Philosophy 110

Creative Arts
- Communication 105
- Art 201, 202, or 203
- Music 105 or 115

Natural Science and Mathematics
- Biology 105 and 232
- Mathematics

Social and Behavioral Science
- Psychology 105 or 145
- Sociology 105

Professional Core

- Education 200, *Teacher, School, and Society*
- Education 201, *Instructional Program Development I*
- Education 202, *Instructional Program Development II*
- Education 250, *Reading Foundations (K-9)*
- Education 322 or 323, *Teaching Arithmetic (K-3)* or *Teaching of Mathematics (4-9)*
- Psychology 216, *Educational Psychology*
- Psychology 220, *Child Psychology*

Special Education Concentration

- Education 260, *Introduction to Exceptional Child*
- Education 364, *Introduction to Mental Retardation*
- Education 366, *Introduction to Learning Disabilities*
- Education 367, *Teaching Techniques for the Mildly Handicapped*

Child

Education 368, *Formal and Informal Diagnostic Techniques*
Education 369, *Prescription Development in Special Education*
Education 408, *Instructional Methods*
Education 409, *Practicum*
English 301, *Scientific Writing*
Physical Education 415, *Adapted Physical Education*
Psychology 322, *Psychology of Exceptional Children*

Content Specialization

Twelve semester hours, in addition to courses used to fulfill Basic Studies and Professional Core requirements, in one of the following areas:

Art
Music
Elementary Education
Physical Education
Psychology
Recreation
Sociology

A grade of "C" or better is required on all courses in the Professional Core and Special Education Concentration.

Secondary Teacher Certification Program

Programs leading to secondary teacher certification are offered in the following areas: Biology, Chemistry, English, French, History, Mathematics, Physical Education, Physics, and Spanish. Also, students who concentrate in History, Political Science or Sociology may fulfill subject matter requirements for Social Studies certification by completing a minimum of 21 semester hours in three Social Studies areas in addition to the discipline of major concentration. Students wishing to prepare themselves as secondary teachers are required to fulfill degree requirements in an appropriate academic discipline and to complete the following sequence of professional courses:

Psychology 216, *Educational Psychology*
Psychology 220, *Child Psychology* or 221, *Adolescent Psychology*
Education 200, *Teacher, School, and Society*
Education 201, *Instructional Program Development I*
Education 356, *Reading in the Content Areas*
Education 408, *Instructional Methods*
Education 409, *Practicum*

A grade of "C" or better is required for all professional courses listed above. Students seeking secondary teacher certification must be formally admitted to the Teacher Education Program ac-

cording to policy established by the University Council on Teacher Education. To be eligible for admission, a student must have completed 30 semester hours of college credit with a grade point average of at least 2.0.

PROFESSIONAL PROGRAMS

JAMES WALKER MEMORIAL ASSOCIATE DEGREE PROGRAM IN NURSING

Acting Director: Miss Gilliland

The Nursing Program is designed as a two-year program to prepare graduates who will meet the requirements for the Associate in Arts degree in Nursing. Upon completion of the prescribed program, the graduates are eligible to write the State Board of Nursing Examination for licensure as registered nurses and will be able to provide patient-centered nursing care in beginning practitioner positions.

Admission to the Associate Degree Program in Nursing requires in addition to acceptance to the University an interview with and approval by the Department of Nursing.

NOTE: A limited number of scholarships are available for Nursing students. See Financial Aid section.

MEDICAL TECHNOLOGY

Advisors: Mr. F. Allen and Dr. C. Lundeen

The University of North Carolina at Wilmington offers the Bachelor of Science degree with a concentration in Medical Technology. This is accomplished in cooperation with the following affiliated hospitals:

Cape Fear Valley Hospital — Fayetteville, N.C.
Charlotte Memorial Hospital — Charlotte, N.C.
Forsyth Memorial Hospital — Winston-Salem, N.C.
Mercy Hospital — Charlotte, N.C.
New Hanover Memorial Hospital — Wilmington, N.C.

The first six semesters of the program (90 semester hours) are completed on campus with the final year spent in residence at the affiliated hospital.

At the present time there is a great deal of competition for available space in the 4th year of training, and completion of the first three years of the program does not necessarily mean the student will automatically be admitted to the twelve-month course in Medical Technology at a hospital. Application to the desired affiliated hospital should be made early in the junior year with the approval of the faculty advisor as entrance requirements may vary at individual hospitals. Upon acceptance the student must notify the advisor by filling out the required form.

Upon successful completion of this four-year program the student will receive the Bachelor of Science degree in Medical Technology from the University and will be eligible to take the examination for certification by the American Society of Clinical Pathologists (ASCP).

Application for graduation should be filed in the Office of the Registrar during the first semester of the junior year.

Some hospital facilities require that, before acceptance into their program, the student must take the Allied Health Professions Admissions test. This test is given at specified institutions each year. See the Medical Technology advisor about time and place.

The Medical Technology program consists of two components: (1) at least 90 semester hours of credit at UNC-W, taken during the first three years, followed by (2) twelve months of clinical training in residence at one of the affiliated hospitals.

I. The Medical Technology curriculum prescribed during the first three years (90 semester hours) must include the following:
   (a) Basic studies requirements — 45 hours
   (b) Major requirements — the BSMT program must include these minimum requirements:

   16 semester hours in Biology, including a course in microbiology and immunology. In addition 16 semester hours in Chemistry including organic chemistry and 3 semester hours in Mathematics are required. These requirements may be met with the following courses:

Required

BIO 105 Concepts of Modern Biology (4)
BIO 108 Introduction to Medical Technology (1)
BIO 425 Microbiology (4)
BIO 441 Introduction to Immunology (1)
CHM 101-102 General Chemistry (4-4)
CHM 311-312 Organic Chemistry (4-4)

The remaining Biology requirements may be fulfilled from the following:

Biology 206 Animal Biology
335 Genetics
345 Animal Physiology
347 Cell Physiology
377 Mycology
495 Seminar in related areas

(c) Related area requirements

Recommended courses in related areas include:

Physics 101-102 General Physics or 201-202
Chemistry 325 Physical Chemistry
Chemistry 335 Quantitative Analysis
Chemistry 465 Biochemistry
Statistics 215 Introduction to Statistics
Computer Science courses

Election of above collateral courses should be determined jointly by the student and the Medical Technology advisor.

The following Medical Technology clinical facilities teach the listed courses during the last 12 months of the student's training. Credit for these courses may not be counted toward any other degree at The University of North Carolina at Wilmington.

CAPE FEAR VALLEY HOSPITAL SCHOOL OF MEDICAL TECHNOLOGY

MT 401 — Serology (3.5)
The theoretical and practical application of immunologic principles to laboratory testing for a variety of diseases, including syphilis, infectious mononucleosis, rheumatoid arthritis, German measles, etc. Use of appropriate controls and the signifance of "false positive" reactions are stressed.

MT 403 — Blood Banking (4.5)
The practical aspects of blood banking including such topics as the selection and bleeding of donors, preparation of blood for transfusion including hepatitis testing, detection and identification of antibodies, typing and cross-matching procedures, and the genetic and serologic aspects of the various blood group systems.

MT 408 — Hematology and Coagulation (6.5)
Topics included are: the enumeration of the cellular elements of blood, differential identification of white blood cells, measurements of properties of red blood cells (hemoglobin, hematocrit, blood indices) and analysis of blood coagulability.

MT 412 — Microbiology (8.0)
Includes specimen procurement, isolation and identification of pathogenic bacteria, mycobacteria and fungi from a variety of human sources. Antibiotic sensitivity testing is stressed. Additionally, the gross and microscopic features as well as the life cycles of human parasites.

MT 414 — Clinical Microscopy (3.5)
The gross, microscopic, physical and chemical examinations of urine, feces and cerebrospinal fluid.

MT 420 — Clinical Chemistry (8.0)
Basic and advanced chemical analysis of the fluid portion of blood, urine, cerebrospinal fluid, amniotic fluid, etc. Significance of values related to states of health and disease is stressed.

CHARLOTTE MEMORIAL HOSPITAL

MT 402 — Serology & Immunology (3)
Develops an understanding of antibody production, antigen-antibody reactions, and serological techniques such as agglutination, immunodiffusion, and fluorescent antibody procedures. This course involves a study of the various immune response manifestations in the serological diagnosis of the clinical disease.

MT 403 — Blood Bank (4)
The course includes typing of blood and identification of factors responsible for incompatabilities between patient and donor and between maternal and fetal blood. Donor processing as well as the theoretical and practical aspects of component therapy are included.

MT 405 — Hematology (8)
The course encompasses the study of the blood forming organs of the body. Urinalysis, hemoglobin electrophoresis, sickle cell studies, routine blood counts and evaluation, bone marrow studies as well as diagnostic coagulation studies are included. Theoretical and practical performance are emphasized.

MT 412 — Microbiology (9)
A review of basic microbiology, including microbial physiology and genetics, host-parasite relationships, and the effects of physical, chemical and antimicrobial agents upon microorganisms. This is followed by systematic medical microbiology with emphasis upon collection and processing of clinical specimens for the isolation and identification of microorganisms involved in infectious disease processes.

MT 420 — Clinical Chemistry (10)
This course involves the biochemical analysis of the blood, urine, spinal fluid, and other body fluids. Instrumentation, maintenance, and multiphasic screening are included to evaluate the enzymes, hormones, electrolytes, drugs, and other important blood component levels. Quality control and normal population values as well as other statistical aspects are studied.

FORSYTH MEMORIAL HOSPITAL

MT 406 — Serology-Blood Bank (6)
Cellular and humoral immune response and the primary and secondary diseases which affect these systems. Diagnostic and therapeutic implications of bacterial, fungal, and viral antibodies. Antigens and antibodies of red blood cells, white blood cells, and other tissue sites; collection, processing, and storage of blood and blood products for transfusion purposes.

MT 412 — Microbiology (9)
Morphology and physiologic activities of medically important bacteria, fungi, and parasites. Microorganisms in the etiology of disease, interaction of host and invader, epidemiology of nosocomial infections, and mechanisms of antimicrobial therapeutic agents.

MT 416 — Hematology and Clinical Microscopy (9)
Human blood cell morphology; primary and secondary hematologic diseases and clinical and laboratory techniques for diagnosing disorders of red blood cells, white blood cells, platelets, and hemostatic mechanisms. Physiologic alteration and laboratory findings related to urine, cerebrospinal flud, joint fluids, and other body fluids.

MT 424 — Biochemistry (10)
The biochemistry of disease with emphasis on diagnostic tests, pitfalls in diagnostic biochemistry and the influence of multiple variables, principles and maintenance of major types of advanced laboratory instrumentation, statistical methods as applied to normal and abnormal populations and the individual patient.

MERCY HOSPITAL
SCHOOL OF MEDICAL TECHNOLOGY

MT 401 — Serology (2)
Serological and Immunological studies of body fluids.

MT 403 — Blood Banking (4)
Typing patients and donors, selecting compatible blood for transfusions.

MT 405 — Hematology (8)
The study of the cellular components of blood and other body fluids by quantitative, qualitative and microscopic methods. Coagulation studies.

MT 412 — Microbiology (8)
Clinical aspects of Bacteriology, Parasitology, Virology and Mycology.

MT 414 — Clinical Microscopy (4)
Urinalysis, gastric analysis, pregnancy testing, kidney stone analysis.

MT 424 — Biochemistry (8)
The chemical analysis of body fluids for various electrolytes, enzymes, proteins, lipids, hormones, carbohydrates, gases, and drugs.

NEW HANOVER MEMORIAL HOSPITAL

MT 405 — Hematology and Coagulation (7.6)
The nature of the blood and bone marrow in health and disease is explored, including blood cell morphology, routine and special testing of diagnostic parameters. Hemostasis, disorders of the clotting mechanism, and associated testing are also considered.

MT 407 — Immunohematology (7.6)
A study of the clinical transfusion service including collection and handling of donor blood and its components, emphasis on pre- and post-transfusion testing. Special attention to the nature and action of important antibodies.

MT 412 — Microbiology (8)
Medically important bacteria, fungi, parasites and associated diseases with special attention to their cultivation, identification, susceptibility to antibiotic agents, and other testing appropriate to the diagnostic laboratory.

MT 414 — Clinical Microscopy (2.5)
Chemical and microscopic finding in the urine in health and disease; emphasis on microscopic analysis of urinary sediment. Renal physiology and chemistry; special procedures in urinalysis also covered.

MT 420 — Clinical Chemistry (7.8)
Instruction on the measurement of medically significant chemical parameters of the blood and other body fluids. Use and maintenance of sophisticated instrumentation, routine and special procedures, quality control, and the significance of test results in disease.

MT 430 — General Procedures and Management (5.5)
A general orientation program with a brief survey of medical terminology, introduction to laboratory management, and daily phlebotomy duties.

THE TEACHER EDUCATION PROGRAM

Advisor: Dr. Doss

The Teacher Education Program at The University of North Carolina at Wilmington stresses a broad education base, a sound subject matter preparation, and an appropriate emphasis on professional education to meet state certification requirements and to give the prospective teacher confidence.

All students who expect to follow the Teacher Education Program must be formally admitted into the program according to policy established by the University Council on Teacher Education. To be eligible for admission, students must have completed 30 semester hours of college credit and have a minimum grade point average of 2.0.

In addition to the basic requirements for graduation, the program includes the following courses on which a grade of "C" or better is required:

Psychology 216 — Educational Psychology (3)
Psychology 220 — Child Psychology (Elementary Teachers) (3)
Psychology 221 — Adolescent Psychology (Secondary Teachers) (3)
Education 200 — Teacher, School & Society (4)
Education 201 — Instructional Development I (3)
Education 356 — Reading in Content Areas (4-9)(Secondary Teachers) (3)
Education 408 — Instructional Methods (6)
Education 409 — Practicum (9)

The University is authorized to certify students for teaching at the secondary level in the following areas: Biology, Chemistry, English, French, History, Mathematics, Physical Education, Physics, and Spanish. Students who major in History, Political Science or Sociology may obtain teacher certification in Social Studies. Requirements are a minimum of 21 semester hours in three additional

Social Studies areas. Students seeking certification on the secondary level are required to complete a concentration in a subject area normally taught in secondary schools in addition to the professional work listed above.

PRE-PROFESSIONAL PROGRAMS

PRE-AGRICULTURE AND PRE-FORESTRY

Pre-Agriculture Advisor: Dr. Merritt
Pre-Forestry Advisor: Dr. Sieren

Pre-professional programs in forestry and agriculture are arranged which enable students to transfer to schools offering professional training in the two fields. The programs are designed to meet the requirements and recommendations of the professional schools and students should plan their programs in consultation with the pre-agriculture or pre-forestry advisor.

PRE-ENGINEERING

Advisors: Mr. Dempsey, Mr. Long and Mr. Lupton

The University offers the first two years of work in engineering. On satisfactory completion of this program students transfer into the junior year at a specialized engineering school without loss of time toward graduation.

General Requirements: Mathematics 115, 211 (students with sufficient background should place immediately into Mathematics 211), 212, 213, 315; Chemistry 101, 102; Computer Science 111; Engineering 111; Physics 201, 202; English 101, 102, and one literature course; Economics 105; one History course; Physical Education 101, 102, (N.C. State University requires 4 credit hours); and one elective (Civil Engineering students should consider Geography 330).

Specific Requirements:
Chemical Engineering: Chemistry 311, 312
Civil Engineering: Geology 105; Engineering 211, 212
Electrical Engineering: Physics 215, 216

ENGINEERING OPERATIONS (PRODUCTION SEQUENCE)

Advisor: Dr. Anderson

The University of North Carolina at Wilmington offers jointly with

North Carolina State University a program leading to the Bachelor of Science in Engineering Operations degree with a production sequence. Students in this program take 90 semester hours as specified below at UNC-Wilmington and the final 38 semester hours in residence at North Carolina State University. The degree is conferred by North Carolina State University at Raleigh.

Courses to be Taken at UNC-Wilmington:

	Semester Hours
*Physical Education	4
** English 102 Composition	3
* Literature	3
* History	3
* Humanities/Social Sciences	9
Economics 251 Principles of Economics	3
Economics 252 Principles of Economics or Business Administration 356 Personnel Management	3
Accounting 201 Principles of Accounting	3
+ Accounting 202 Principles of Accounting	3
Accounting 305 Cost Accounting or Accounting 306 Accounting for Management Control	3
Business Administration (one of the following): BUS 345, Marketing; BUS 348, Sales and Sales Management; BUS 356, Personnel Management; or BUS 461, Business Law	3
Economics 427 Labor Economics	3
Mathematics 211, 212, 213 Calculus with Analytic Geometry	12
++Statistics 205 Introduction to Statistics	3
Physics 201, 202 General Physics	10
Chemistry 101, 102 General Chemistry	8
Engineering 111 Engineering Graphics	3
Computer Science 111 Introduction to Computer Programming Using FORTRAN	3
*Free Electives	8
Total Credits at UNC-W	90

*Specific courses to be selected by student within the prescribed areas.

**English 101 is not required except as prerequisite to English 102. Transfer credit will not be given toward Engineering curriculum.

+Accounting 202 is not required except as prerequisite to Accounting 305 or Accounting 306. Credits will be transferred as elective credits.

++In lieu of Statistics 205, Statistics for Engineers ST 361, may be taken by correspondence from NCSU.

PRE-LAW

Advisor: Dr. James Dixon

Students who plan to prepare for law school may select a major in any discipline that fulfills the general and specific requirements for a baccalaureate degree at UNC-W. In developing a Pre-Law program, the student should be aware of the recommendation of the Association of American Law Schools, which describes the basic skills and insights it believes fundamental to the later attainment of legal competence. These are (a) comprehension and expression in words; (b) critical understanding of human institutions and values with which the law deals; and (c) creative power in thinking. In order to develop these capacities, the association recommends a pre-legal education of "the broadest scope." To accomplish these goals The University of North Carolina at Wilmington offers a wide range of Pre-Law courses. Although Political Science and Business are frequently selected by Pre-Law students as their major, Economics, History, Sociology and others are sometimes selected. Regardless of the area of concentration, the Pre-Law student should be zealous in the selection of electives that will facilitate critical understanding of economic, political and social institutions. Since a lawyer must be able to communicate effectively, the Pre-Law student is well-advised to lay special emphasis on communicative skills. Also a knowledge of elementary accounting is desirable and highly recommended.

Finally, the Pre-Law student should remember that the quality of undergraduate instruction is more important than the subject matter area. The Association of American Law Schools recommends the selection of courses which require the greatest preparation and intellectual discipline. "The best trained applicant for law school," states the Association, "is the student who has studied under teachers who have inspired, challenged, and pressed him."

All candidates for law school should apply in time to insure that their completed file is available by January 1 of the year they plan to enter. This means that they should register for either the July or October administration of the Law School Admissions Test and for the Law School Data Assembly Service. The LSAT and the LSDAS are explained fully in the Law School Admission Bulletin which is available in the Department of Political Science. Additional information and advice may be secured from the Pre-Law advisor in the Department of Political Science.

PRE-MEDICINE AND PRE-DENTISTRY

Advisor: Dr. Levy

Students who expect to apply for admission to medical or dental schools should be aware of the high standard of work at the undergraduate level required by these professional schools and of the specific course requirements for admission.

Requirements for admission to medical schools differ slightly from those to dental schools. Basic work in Biology, Physics and Chemistry (including organic chemistry) is required in both instances. Students should plan their programs with the help of their pre-professional advisor.

PRE-PHARMACY

Advisor: Dr. Ned Martin

Students interested in careers in pharmacy should consult with the Pre-Pharmacy advisor before arranging their academic schedules. Basic coursework in Biology, Chemistry, Physics, and Mathematics is required, as well as additional studies in the Social Sciences and humanities in the two-year Pre-Pharmacy program. Students should arrange through their advisor to take the Pharmacy College Admission Test (PCAT) either in November or February of their second year. Applications to pharmacy schools should be made in the fall or winter of the second year.

SPECIAL PROGRAMS

MARINE SCIENCES

Marine Science activity at The University of North Carolina at Wilmington consists of instructional and research programs on the University's main campus as well as specialized research activities associated with its Institute for Marine Biomedical Research at Wrightsville Beach.

The programs in Marine Sciences on the University's main campus consist of a Marine Biology curriculum leading to the B.S. degree, an Environmental Studies curriculum leading to the B.A. degree, a Marine Biology curriculum leading to the M.S. degree, and a Faculty Marine Science Research Program.

MARINE BIOLOGY CURRICULUM

The UNC-W Marine Biology curriculum is a unique baccalaureate program in the University system. It includes a strong founda-

tion of Biology with an emphasis in Marine Biology at the junior and senior levels. Full use is made of the natural laboratory provided by the adjacent Atlantic Ocean through extensive field work in many Marine Biology courses. Approved collateral requirements include marine-oriented courses in Math, Physics, Chemistry and the Earth Sciences. The curriculum is flexible enough to meet the individual needs of the student enabling preparation for graduate studies or for teaching and research careers available to one with the baccalaureate degree. Requirements for the B.S. degree in Marine Biology are listed under Biology in the Degree Program Requirements section of this catalogue.

ENVIRONMENTAL STUDIES CURRICULUM

The Environmental Studies curriculum emphasizes the importance of multidisciplinary approaches in the study of environmental problems, particularly those dealing with the marine environment. The curriculum exposes students to a broad range of analytical procedures in the natural and social sciences, while allowing them to develop special capabilities within their primary area of interest.

The curriculum is divided into two parts: a multi-disciplinary core consisting of course work in the natural and social sciences, including an environmental impact seminar, and an area of specialization consisting of course work within approved disciplines. Those who wish to emphasize Marine Science may do so by electing an approved sequence of courses in Marine Science. Other available concentrations include: Biology, Chemistry, Economics, Earth Sciences, Management, Math, Physics, Political Science, Psychology, Sociology and Anthropology. Requirements for the B.A. degree in Environmental Studies are listed in the Degree Program Requirements section of this catalogue.

MARINE BIOLOGY GRADUATE PROGRAM

The graduate program leading to the Master of Science degree in Marine Biology includes three areas of specialization: Marine Biology, Biological Oceanography, and Coastal Biology. Each of these tracks is designed to provide the necessary latitude to allow the student to develop a program of study appropriate to his needs. Further information is given in the Graduate Studies section.

MARINE SCIENCE RESEARCH PROGRAM

The Marine Science Research Program has many active participants with research interests covering areas of Marine Biology,

Physical and Chemical Oceanography, Marine Geology and Marine Biogeography. There are two categories of participants in the program: those who hold research positions and those who hold regular teaching positions but who are also engaged in Marine Science research. All participants are involved in the Marine Science instructional program.

INSTITUTE FOR MARINE BIOMEDICAL RESEARCH

The Institute for Marine Biomedical Research constitutes a major component of the overall Marine Science development effort at UNC-W and has the dual mission of conducting research programs of the highest quality and utilizing these programs as an instrument in the education of students. The Institute provides a link between studies of medical sciences and human biology, and studies of marine sciences and the marine environment. This role distinguishes it from other institutions dedicated to Marine Biology or to Oceanology, and renders it unique in the State of North Carolina and the entire United States.

The Institute's scientific program focuses on three related areas. Experimental Biology addresses itself to broad problems of adaptation and acclimatization of animal life at all levels of development to the environmental stresses characteristic of the marine environment. Biomedical studies are concerned in particular with the higher vertebrate species that invite comparison with mammals and man in brain and central nervous system function, structure, pharmacology, and studies of regulator processes, such as temperature regulation. The Experimental Oceanology program covers a broad range of efforts related to the ocean environment, using the ocean as a laboratory in which the methods of experimental science can be applied to the solution of problems related to management, conservation, and development of marine life.

Supporting the Institute's research programs are a series of specialized facilities, including the complex of deep-sea simulators capable of simulating ocean depths of 30,000 feet, a biochemistry laboratory, histology laboratory, a photographic laboratory, and electronic and machine shops. In addition, the Institute is continuing to sponsor large-scale expeditionary research in such regions as the Antarctic, Caribbean, the South American Andes, and Lake Baikal (the world's deepest lake) in Central Siberia.

THE TROPICAL EXPERIENCE

The Department of Biology offers on an alternate year basis a six-week summer field program in selected areas of the tropical

world. Participating students may conduct individual or group research in Marine Biology, Vertebrate Zoology, Botany, or Ecology.

HONORS PROGRAM

A student who has a quality point average of 3.0 or better (including all transferred work) over the first two and one-half years of college work (74 semester hours), who has completed at least 30 semester hours work with a 3.0 or better quality point average at The University of North Carolina at Wilmington, and who is recommended by the chairman of the area in which he is concentrating, is eligible for admission to the Honors Program. This program involves independent study in the area of concentration, a paper reporting the results of the study, and an oral examination. Honors work is not intended to replace any specifically required course.

A student who enters the Honors Program will be required to complete six semester hours of honors work in the field of concentration during the last three semesters, with a maximum of three semester hours credit in any one semester. The Honors Program may be entered either at the beginning of the second semester of the junior year (on completion of 74 semester hours) or at the beginning of the first semester of the senior year.

In order to graduate with honors, a student must successfully complete the program and have a 3.0 quality point average over all college work at the time of graduation. A student who does not retain an overall average of 3.0, however, may still receive credit for the honors project.

SUMMER SESSIONS

The Summer Sessions constitute an integral part of the University's academic year. Students may take advantage of several unique programs related to the marine environment and other interesting subject areas. There are a variety of courses offered for students who wish to accelerate their progress toward the baccalaureate degree, to supplement the academic load carried during the regular terms, or to remove deficiencies. During the summer sessions, students from other colleges or universities may be admitted as visitors by using the "Summer Visitor" application. Public school teachers may wish to renew or change fields of certification; or they may want to pursue a program of graduate studies in the School of Education.

Summer Sessions at UNC-W offer students an opportunity to combine leisure with some creative learning experiences.

Further information concerning the Summer Sessions may be obtained by contacting the Director of Special Programs.

CONTINUING EDUCATION

The Office of Continuing Education serves as the coordinator, convener and catalyst for a variety of educational and service oriented activities throughout southeastern North Carolina. Part of its task is to respond to the continuing education needs of the community by developing programs cooperatively with business, industry, educational institutions, service organizations, social service agencies, government agencies, civic groups, and individuals. Continuing education programs are categorized as either non-academic or academic in nature.

Persons participating in University activities through the Continuing Education Program are subject to all the policies and academic regulations of the University. (Participation in the various non-academic programs is based upon the appropriateness of the activity in meeting the needs of an individual or group; whereas, academic applicants are admitted entirely on the basis of their academic qualifications and without reference to national origin, creed, color or sex.)

PROGRAMS AND SERVICES FOR BUSINESS AND INDUSTRY

The University through the Office of Continuing Education offers a variety of short courses, conferences, and workshops designed specifically for business and industry. These activities are conducted either by this University's faculty and staff or by individuals from other universities or organizations. The activities include programs in communication, management, supervision, small business administration, computer programming, and other topics. Activities are either custom designed for a specific business or industry or offered to the entire community as a regularly scheduled event. At the present time, most of these programs are being delivered through the Management Development Program, an organized effort featuring faculty from the School of Business Administration.

PROGRAMS AND SERVICES TO PUBLIC ORGANIZATIONS

The University is vitally interested in assisting public organizations (municipal, county, state, and federal) with their training and educational programs. A variety of continuing education activities including credit courses, noncredit short courses, workshops, conferences, and seminars are offered to public organizations.

PROGRAMS AND SERVICES TO SCHOOL SYSTEMS

The University is prepared to assist school systems with their programs for the professional improvement of teachers. Courses can be designed to meet certification and renewal requirements and to provide general training for teachers and administrators.

Continuing education activities include courses or training developed to meet the needs of teachers in the various teaching fields. Many activities can be designed to meet the needs of a specific school or school system.

PROGRAMS AND SERVICES TO THE GENERAL PUBLIC

The Office of Continuing Education arranges a full schedule of community interest programs during each academic year to raise the level of awareness of persons concerning issues affecting their daily lives and to contribute to personal enrichment. These activities include speakers, discussion groups, short courses, workshops, and conferences. The topics range from local problems to international affairs. For example the Office of Continuing Education normally coordinates the "Great Decisions" program during February and March of each year. This program, sponsored and developed by the American Foreign Policy Association, is a discussion group activity which includes eight topics of international interest. This is a noncredit activity open to the public.

UNIVERSITY EXTENSION PROGRAM

In an effort to reach beyond the bounds of the campus the University offers, through the Office of Continuing Education, a number of freshman and sophomore level courses on the campuses of three regional technical colleges. The institutions involved in this program are James Sprunt Technical College in Kenansville, Bladen Technical College in Dublin, and Sampson Technical College in Clinton, North Carolina.

The technical colleges are responsible for recruiting and enrolling students in this program. Only those students who are high school graduates or the equivalent may be enrolled for academic credit in this Extension Program of the University. All requests for transcripts for University extension courses should be forwarded to the Registrar of The University of North Carolina at Wilmington.

Students enrolled in this program who desire to become degree candidates on the University campus must meet regular admission requirements for freshmen or transfer students.

An additional dimension of the Extension Program includes offering graduate instruction in the field of education to qualified students at off-campus sites. Utilizing faculty from the School of Education, these courses are offered to meet the staff development and/or graduate degree requirements of local teachers.

Further information concerning the Continuing Education Program may be obtained by contacting the Director of Special Programs.

DESCRIPTION OF COURSES

This section contains a listing, arranged alphabetically by discipline, of all the courses offered in the College of Arts and Sciences, the School of Business Administration, and the School of Education. Not all of the courses listed are necessarily offered within a single academic year. For a listing of the courses actually offered during a given semester, see the course schedule which is printed for that semester. This schedule lists the time, place and instructor for each course offered during the semester. Copies may be obtained in the Office of the Registrar.

"Trial" courses may be offered on a one-time basis. Numbers used to designate these special courses are 292 and 492. These courses are not listed in the catalogue, but description information is on file in the Office of the Registrar.

A hyphen connecting courses (e.g. 201-202) indicates that the first course in the sequence must be satisfactorily completed prior to registration in the second course of the sequence. When course numbers are separated by a comma (e.g. 201, 202), the first course is not necessarily prerequisite to those following. The semester hours credit for each course is indicated in parentheses following the course title.

Directed Individual Study involves investigation of a subject beyond what is offered in existing courses. To enroll in Directed Individual Study, students must have an overall grade point average of at least 2.0 and the approval of 1) the faculty member who would direct the study, 2) the departmental chairman, and 3) the appropriate Dean. Departmental criteria will include 1) the availability of the instructor (instructors will ordinarily not supervise more than 6 student credit hours of Directed Individual Study per semester), 2) the appropriateness of and need for the proposed study in the student's program, 3) availability of library and other research resources, and 4) the feasibility of completion of the proposed study in the allotted time. Students are limited to 9 credit hours of Directed Individual Study towards graduation requirements, not more than 3 of which can be outside the area of concentration.

ACCOUNTING

(School of Business Administration)

201-202 Principles of Accounting (3-3)
Prerequisite: Mathematics 111 or consent of instructor. Preparation of financial records, working papers, statements of financial position, income statements, and statements of changes in financial position. ACG 201 emphasizes financial accounting; ACG 202 emphasizes managerial uses of accounting.

301-302 Intermediate Accounting (3-3)
Prerequisite: Accounting 202. Analysis of the theory, concepts, principles and procedures underlying the preparation of financial statements for external reporting in light of current issues and practices.

305 Cost Accounting (3)
Prerequisite: Accounting 202. Costs for planning and control, including the role of the accountant in the organization; cost behavior and volume-profit relationships; responsibility accounting; standard costs; flexible budgets; cost structures for control and motivation; and relevant costs for nonroutine decisions.

306 Accounting for Management and Control (3)
Prerequisite: Accounting 202. The study of how accounting data can be analyzed, interpreted, and used by management in planning and controlling business activities. Emphasis is on the analysis of accounting data rather than the collecting and recording functions. Not open to students concentrating in accounting.

308 Income Tax Accounting (3)
Prerequisite: Accounting 202. Principles of federal and state income taxes as related to individuals, partnerships, and corporations, the history and development of taxation, and special income tax problems.

401 Accounting for Business Combinations (3)
Prerequisite: Accounting 301-302. A study of accounting problems in partnerships, mergers, and consolidations, parent-subsidiary interrelationships, branch and foreign operations, and non-profit organizations. Emphasis on consolidated financial statements.

402 Specialized Accounting Problems (3)
Prerequisite: Accounting 301-302. The application of accounting theory to specialized problems, including partnerships, fiduciary relationships, bankruptcy and reorganization, liquidation, governmental entities and other nonprofit service entities.

403 Administrative Accounting and Control (3)
Prerequisite: Accounting 305 or Accounting 306. The controllership function and analytical methods to serve the information needs of decision making and control; advanced topics in cost accounting, forecasting, budget design and preparation, and responsibility accounting.

407 Auditing (3)
Prerequisite: Accounting 301-302. Objectives, standards and procedures involved in examining and reporting on financial statements of business organizations by independent auditors in light of ethical and legal obligations.

408 Contemporary Accounting Theory (3)
Prerequisite: Accounting 301-302 and consent of instructor. Analysis and evaluation of current accounting thought relating to nature, measurement, and reporting of business income and financial condition.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

499 Honors Work in Accounting (2-3)
Prerequisite: Senior standing. Independent work for honors students.

ANTHROPOLOGY

(Department of Sociology and Anthropology)

105 Introduction to Anthropology (3)
Introduction to the physical, archaeological, linguistic, and ethnological fields of anthropology; biological and cultural evolution of man. Three hours each week.

205 (Sociology 205) Human Societies (3)
Prerequisite: Anthropology 105. The evolution of man and societies. Societal evolution as seen as an extension of and/or parallel to biological evolution. A movement from simple to complex forms of societies as analyzed from an emphasis upon sustenance activity as the primary organizing principle of societies. Three hours each week.

206 Cultural Anthropology (3)
Prerequisite: ANT 105. A presentation of the content and historical development of cultural anthropology. Deals with the cultural relativism, ethnocentrism, institutional analysis and cultural integration and shifts in theoretical perspectives by comparing ethnographies of selected cultures. Three hours each week.

207 Archaeology (3)
The concepts and aims of archaeology, its history as a scientific discipline and its present role in the social sciences. Attention to basic principles in field work and to recent advances. Three hours each week.

207-51 Archaeology Laboratory (1)
Corequisite or prerequisite: Archeology 207. Course is designed to familiarize students with techniques of archaeological recovery, preparation, preservation, and analysis of recovered archaeological materials. Laboratory work will parallel lecture, providing practical experience in techniques covered as part of lecture course. It is not necessary to take the lab in order to take lecture. Three hours each week.

208 Language and Culture (3)
Prerequisite: Anthropology 105 or consent of instructor. Human language, its characteristics and its relationship to other communication systems will be examined. The use of language to illuminate historical relationships present sociocultural processes will be discussed, as well as ways in which one can investigate culture through cognitive structures elicited from speech. Three hours each week.

210 Evolution of Man and the Development of Culture (3)
Critical analysis of the fossil evidence leading to current theories of human evolution. Examination and correlation of fossil remains and artifacts preserved in the geologic record as related to the anatomy and behavior of living human and non-human primate groups. Three lecture hours each week.

302 Economic Anthropology (3)
Prerequisite: Anthropology 105. Primitive tribal and peasant economic systems are viewed through the use of case studies and theoretical materials. The aim of the course is to present an overview of the field by reviewing the major theoretical positions (and controversies). It further provides a brief critique of the development of economic anthropological theory. Three hours each week.

304 Indians of South America (3)
Prerequisite: Anthropology 105. This course will acquaint the student with human populations and their adaptations to the South American continent. Approximately equal emphasis is given to lowland tribes and Andean cultures. Both of these will be studied from an historic perspective spanning the entire period of man's presence on the continent. Three hours each week.

305 Indians of North America (3)
Surveys of North American Indian tribes; subsistence patterns reflected through cultural adaptation to various ecotypes; archaeological analysis of the interplay of Asian and Mexican influences; restructuring of North American Indian cultures as a consequence of European influence. Three hours each week.

306 Principles of Kinship (3)
Prerequisite: ANT 105. This course deals with the structures and functions of kinship in a variety of cultures as a background for the study of complex cultural patterns. Three hours each week.

307 New World Archaeology (3)
Prerequisite: Anthropology 105. The entry of man into North America and South America will be examined using archaeological data. Other topics will include the post-Pleistocene expansion of big game hunters, woodland hunter-gatherers, and the development of agricultural societies. Diffusion versus independent invention will be considered. Three hours each week.

308 Marine Archaeology: Methods and Theory (3)
Prerequisite: Anthropology 105, Anthropology 207 and diver certification. This course is designed to introduce the archaeologist to the field of underwater archaeology. Both classroom and field sessions will be required. Theory will be derived from the existing literature. The role of the archeologist as an underwater scientist will be emphasized. Three hours each week.

309 Environmental Anthropology (3)
Prerequisite: Anthropology 105 or consent of instructor. A study of cultural adaptations as responses of human populations to varied environments; this course will focus upon cultural vs. biological adaptation from the archaeological past to the ethnographic present.

310 Marine Archaeology: Field Practicum (3-6)
Prerequisite: Anthropology 105, Anthropology 207, Anthropology 308 and diver certification (Anthropology 308 and Anthropology 310 may be taken concurrently). Practical field methods will be taught utilizing actual underwa-

ter prehistoric or historic sites. Survey techniques, excavation, record-keeping and preservation will be stressed and adapted to a submarine environment.

311 Field Methods in Archaeology (3-6)
Prerequisite: Anthropology 207. Practical field methods of land-site archaeology will be taught through the excavation of local archaeological sites. Scientific excavation, sampling, and preservation techniques will be presented as the basic tools of the archaeologist.

312 Historical Archaeology (3)
Prerequisite: Anthropology 105 and Anthropology 207. Substantive investigation of the special excavation and analysis procedures, subject matter, and goals of archaeology as applied to the historic past of North America. Special emphasis will be placed upon historic archaeological sites in the local (Southeastern North Carolina) region. Lecture, laboratory and field work involved. Three hours each week.

320 Fossil Man (3)
Prerequisite: ANT/ERS 210 or consent of instructor. Classification and history of human evolution deduced from the fossil record. Discussion of Tertiary hominoids and emergence of humans with emphasis on Australopithecines and later Pleistocene hominids. Three hours each week.

322 Primate Biology and Behavior (3)
Prerequisite: ANT 105 or consent of instructor. Ecology, social behavior, and functional morphology and classification of living primates (prosimians, monkeys, and apes); their evolutionary history and development.

324 Human Biological Variation (3)
Prerequisite: ANT 210 or consent of instructor. Nature and extent of heritable differences among human populations in evolutionary perspective. Consideration of effects of environmental factors on genic expression. Three hours each week.

350 Maritime Anthropology (3)
Prerequisite: Anthropology 105. A cross-cultural comparison of past and present maritime populations from selected parts of the world. Emphasis will be placed upon the natural environmental settings and related cultural adaptations. Both intra- and inter-group interaction will be stressed as well. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of instructor.

495 Topical Seminar (1-3)
Prerequisite: Consent of instructor. Discussion of selected topics in anthropology.

499 Honors Work in Anthropology (2-3)
Prerequisite: Eligibility for honors program and senior standing. Independent work for honors students.

For 292 and 492, see explanation on p. 119.

ARABIC

(Department of Modern Languages)

101-102 Elements of Written Arabic (3-3)
Primary emphasis on literary Arabic, with attention given to spoken colloquials of Egypt, Syria, Palestine, and Iraq as modern developments of classical Arabic. The oral approach is not used; rather the aim is to enable the student to read and to write the modern and classical language. Three hours each week. Offered on demand.

201-202 Intermediate Arabic (3-3)
Continuing study of more advanced grammar. Readings from the Qur'an, philosophical texts, modern newspapers, and contemporary literature. Emphasis on writing Arabic; personal and business correspondence and original prose. Some attention to Arabic poetry of the classical period. Three hours each week. Offered on demand.

ART

(Department of Creative Arts)

105 Painting Techniques (1)
Painting in various media: oil, acrylic, watercolor, etc. Two hours each week. May be repeated indefintely. Accumulative credit limited to two hours.

106 Three-Dimensional Form Techniques (1)
Three-dimensional form with emphasis on sculpture and ceramics. Two hours each week. May be repeated indefinitely. Accumulative credit limited to two hours.

107 Drawing Techniques (1)
Drawing in various media: charcoal, ink, polymer, etc. Two hours each week. May be repeated indefinitely. Accumulative credit limited to two hours.

111-112 Beginning Life Drawing (3-3)
Drawing from the model in various media: pencil, charcoal, ink, etc. Six studio hours each week.

141-142 Two-Dimensional Design (2-2)
Fundamentals of design. One lecture and four studio hours each week.

143-144 Three-Dimensional Design (2-2)
Study of three-dimensional form to give a feeling for plastic awareness. One lecture and four studio hours each week.

201, 202, 203 Art History and Appreciation (3, 3, 3)
Survey of the general periods of art from prehistoric to modern. 201: Ancient World. 202: Middle Ages and Renaissance. 203: Modern World. Three hours each week.

208 Technical Skills (1)
Prerequisite: At least two different studio courses. Basic skills related to the arts: framing, matting, crating, etc. One studio hour each week.

211-212 Intermediate Life Drawing (3-3)
Prerequisite: Art 112 or permission of instructor. Drawing from the model in various media: pencil, charcoal, ink, etc. Six studio hours each week.

221-222 Beginning Ceramics (3-3)
Introduction to three-dimensional form and design in the manipulation of clays and glazes; basic techniques and approaches. One lecture and six studio hours each week.

231-232 Beginning Printmaking (3-3)
Prerequisite: Art 141 or 111 or permission of instructor. Problems in relief and intaglio using a variety of materials. One lecture and six studio hours each week.

241-242 Beginning Painting (3-3)
Prerequisite: Art 142 or consent of instructor. Emphasis on technique and expression. One lecture and six studio hours each week.

251-252 Beginning Sculpture (3-3)
Prerequisite: Art 144 or consent of instructor. Three-dimensional form in clay and plaster; basics of modeling and casting abstract and life forms. One lecture and six studio hours each week.

261-262 Beginning Crafts (3-3)
Prerequisite: Art 141 or consent of instructor. Beginning study of materials and techniques. Work primarily in Jewelry Design, including fabrication, casting and enameling. Work in other areas upon request and with consent of instructor. One lecture and six studio hours per week.

281-282 Color (3-3)
Prerequisite: Art 142 or consent of instructor. Acrylic, oil, watercolor, and gouache; problems in the interrelationship of colors. One lecture and six studio hours each week.

306 Italian Renaissance Art History (3)
Study of the development of art in Italy, 1000-1500 A.D. Emphasis on painting. Sculpture and architecture included as related to Renaissance concepts of thought.

307 History of Printmaking (3)
Survey of printed pictures from the 15th century to the present. An appreciation of the evolution of printmaking from its practical applications to Fine Art, including major artists as printmakers. Studio experience optional.

311-312 Advanced Life Drawing (3-3)
Prerequisite: Art 212 or consent of instructor. Drawing in various media: conte, charcoal, ink, etc. Six studio hours each week.

321-233 Intermediate Ceramics (3-3)
Prerequisite: Art 222 or consent of instructor. Continuation of three-dimensional forms and design in manipulation of clays and glazes; basics of kiln construction and chemistry of glazes. One lecture and six studio hours each week.

331-332 Intermediate Printmaking (3-3)
Prerequisite: Art 232 or consent of instructor. Further exploration of printmaking techniques in relief, intaglio, silk screen. One lecture and six studio hours each week.

341-342 Intermediate Painting (3-3)
Prerequisite: Art 242 or consent of instructor. Further exploration of technique and expression. One lecture and six studio hours each week.

351-352 Intermediate Sculpture (3-3)
Prerequisite: Art 252 or consent of instructor.Three-dimensional form in plaster, ceramics and metals. One lecture and six studio hours each week.

361-362 Intermediate Crafts (3-3)
Prerequisite: Art 262 or consent of instructor. Further explanation of materials and techniques used in various crafts media with an emphasis on show quality pieces. One lecture and six studio hours per week.

385 Art in the Elementary School (3)
Appreciation of art designed for elementary teachers, including studio work and art education theory. One lecture and three studio hours each week.

411-412 Advanced Drawing (3-3)
Prerequisite: Art 312 or consent of instructor. Drawing with a variety of techniques and media. Six studio hours each week.

421-422 Advanced Ceramics (3-3)
Prerequisite: Art 322 or consent of the instructor. Further experience in three-dimensional form and design and emphasis on kiln construction and theory; physical and chemical properties of clays and glazes including the empirical method of glaze calculation. One lecture and six studio hours each week.

431-432 Advanced Printmaking (3-3)
Prerequisite: Art 332 or consent of instructor. Further exploration of printmaking techniques in relief, intaglio, silk screen, lithography and collograph. One lecture and six studio hours each week.

441-442 Advanced Painting (3-3)
Prerequisite: Art 342 or consent of instructor. Emphasis on techniques and expression. One lecture and six studio hours each week.

451-452 Advanced Sculpture (3-3)
Prerequisite: Art 353 or consent of instructor. Continuation of study of form with emphasis on casting and welding of metals. One lecture and six studio hours each week.

485 Senior Exhibition (2)
The organization and presentation of works done by the student both in and out of class. Senior standing.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

For 292 and 492, see explanation of p. 119.

BIOLOGY

(Department of Biology)

105 Concepts of Modern Biology (4)
An introduction to the diversity of life and the unifying principles that bring

order to that diversity. Some of the concepts discussed include the nature of life, energy relationships, reproduction and development, inheritance, evolution of life, behavior of animals, and ecology and the environment. Multimedia instructional materials are used. Three lectures and three laboratory/discussion hours each week.

108 Introduction to Medical Technology (1)

A survey of medical laboratory technology as a career option. Explores the many disciplines encompassed by the profession including microbiology, chemistry, blood banking, and hematology as they apply to the medical diagnostic laboratory, as well as brief considerations of cytotechnology and histotechnology. The course includes a discussion of the nature and scope of necessary skills, opportunities for advancement, certification requirements, and visits to a hospital laboratory. One hour and fifteen minutes each week.

205 Plant Biology (4)

Prerequisite: Biology 105. Classification, morphology, physiology, and ecology of seed plants with introductory survey of algae, fungi, bryophytes and lower vascular plants. Three lecture and three laboratory hours each week.

206 Animal Biology (4)

Prerequisite: Biology 105. Classification, morphology, physiology, and ecology of animals. Three lecture and three laboratory hours each week.

208 Methods of Biological Research (2)

Prerequisite: Biology 105. An introduction to the scientific method, hypothesis construction, library resources, paper preparation and presentation, the use of computers, and basic statistics. Two hours each week.

215 (Physical Education 215) Anatomy and Physiology (4)

Prerequisite: Credit in Biology or consent of instructor. Brief introduction to major biological principles as applied to study of human anatomy and physiology. Three lecture and three laboratory hours each week.

225 Bacteriology (3)

Prerequisite: Credit in Biology. Open only to nursing students. Bacteria and related organisms; laboratory work in common bacteriological techniques. Two lecture and three laboratory hours each week.

235 Genetics in Human Affairs (3)

Prerequisite: Biology 105. A discussion of basic principles of genetics for non-majors or majors with the ultimate goal of developing an understanding of the relationship of genetics to the society of today and its possible influence on the future of man. A survey of current knowledge of the inheritance of human traits is included. Three hours each week.

315 Comparative Vertebrate Anatomy (4)

Prerequisite: Biology 206. Comparative morphology and phylogenetic interrelationships of vertebrate animals; representative organisms dissected in laboratory. Three lecture and three laboratory hours each week.

316 Vertebrate Embryology (4)

Prerequisite: Biology 206. Fundamental principles of embryonic development of vertebrate animals; frog, pig and chick emphasized. Three lecture and three laboratory hours each week.

335 Genetics (3)

Prerequisite: Biology 105. Principles of Mendelian heredity, linkage, mutation, population genetics, and gene action. Three hours each week.

335-51 Genetics Laboratory (1)
Prerequisite: Biology 105; *corequisite:* Biology 335. Demonstration of basic heredity principles through study of *Drosophila* and other genetic systems. Three laboratory hours each week.

345 Animal Physiology (4)
Prerequisite: Biology 206 and Chemistry 102. Comparative study of physiological processes in different organisms approached through study of tissues, organs, and systems. Three lecture and three laboratory hours each week.

347 Cell Physiology (3)
Prerequisite: Biology 105 and Chemistry 102. Chemistry 311-312 is recommended. Chemical and physical properties of cells. Emphasis on molecular biology and experimental biological systems used to elucidate cellular function. Three lecture hours each week.

347-51 Cell Physiology Laboratory (1)
Prerequisite or corequisite: Biology 347. Experiments demonstrating basic phenomena underlying cellular function. Three laboratory hours each week.

349 (Physical Education (349) Applied Physiology of Exercise (4)
Prerequisite: Biology 215 or 345. A study of fundamental responses of the human body to stress of exercise, including compensatory adjustments to long-term physical training. Three lecture and three laboratory hours each week.

355 Plant Physiology (4)
Prerequisite: Biology 205 and Chemistry 102. A study of plant function at the molecular, cellular, and organismic levels. Emphasis placed on unique aspects of vascular plants. Topics include water relations, solute transport, photosynthesis, nitrogen metabolism, plant hormones, photocontrol of development, stress physiology. Three lecture and three laboratory hours each week.

356 Vertebrate Natural History (4)
Prerequisite: Biology 206. Identification, classification, and life histories of common vertebrate animals of eastern North Carolina with emphasis on field work. Two lecture and four laboratory hours each week.

357 Herpetology (3)
Prerequisite: Biology 206. A study of the biology of amphibians and reptiles of the world. Natural history, ecology, morphology, and taxonomic relationships are stressed. Two lecture and three laboratory hours each week.

362 Marine Biology (4)
Prerequisite: Biology 206. Biology 205 recommended. The coastal and oceanic biota and their relationships to the marine environment. Three lecture and three laboratory hours each week.

365 Invertebrate Zoology (4)
Prerequisite: Biology 206. Invertebrate organisms with emphasis on structure, function, taxonomy, phylogeny, and life histories. Three lecture and three laboratory hours each week.

366 Ecology (4)
Prerequisite: Biology 205 and 206. Ecological principles pertaining to both plants and animals. Three lecture and three laboratory hours each week.

370 Tropical Biology (3)
Prerequisite: Biology 205 and 206 or consent of instructor. Study of the geography, climate, plant communities, diseases, and geographic distribution and ecology of the major animal taxa of the neo- and paleotropics. Recommended for all students planing to enroll in Field Studies in Tropical Biology. Three lecture hours each week.

371 Field Studies in Tropical Biology (1-6)
Prerequisite: Biology 105, 205, 206, and consent of instructor. Biology 370 is recommended. A research-oriented field course offered in selected areas of the tropical world. Emphasis is placed on distribution, taxonomy, and ecology of marine, aquatic, and terrestrial organisms.

375 Plant Morphology (4)
Prerequisite: Biology 205. Morphological survey of algae, fungi, bryophytes, lower vascular plants, and seed plants with emphasis on life histories, classification, and identification. Three lecture and three laboratory hours each week.

377 Mycology (4)
Prerequisite: Biology 105. Taxonomy, morphology, physiology and ecology of fungi. Three lecture and three laboratory hours each week. One weekend field trip required.

425 Microbiology (4)
Prerequisite: Biology 205 or 206. Nonpathogenic and pathogenic organisms; microscopic study; culture and staining methods. Two lecture and four laboratory hours each week.

440 Developmental Biology (4)
Prerequisite: Biology 205 and 206. Concepts of mechanism and control in development. Topics include cell lineage determination, differential gene activity, cell recognition phenomena, hormones, and environmental control of development. Plant and animal systems studied in modern research literature will be discussed. Three lecture and three laboratory hours each week.

441 Introduction to Immunology (1)
Prerequisite or corequisite: Chemistry 312. A general survey of modern immunological principles. One hour each week.

446 Phycology (4)
Prerequisite: Biology 205. An introductory survey of algal groups including benthic and planktonic freshwater and marine representatives in local environments. Morphology, life histories, and ecology are emphasized. Collection and preservation techniques are demonstrated. Three lecture and three laboratory hours each week.

452 Mammalogy (3)
Prerequisite: Biology 206. A study of mammals, emphasizing their evolution, taxonomic relationships, structural and physiological adaptations, and life histories. Laboratory sessions will include collections, identification, and preparation of specimens and observations of mammals in the field. Two lecture and three laboratory hours each week.

456 Ornithology (4)
Prerequisite: Biology 206. An introduction to the life of birds. Emphasis will

be on the identification, classification, evolution, ecology, and life histories of the birds of North Carolina. Three lecture and three laboratory hours each week.

457 Ichthyology (4)
Prerequisite: Biology 206. The systematics, evolution, and natural history of fishes, with field work emphasizing the ecology and behavior of fishes. Field trips and individual research projects required. Three lecture and three laboratory hours each week.

458 Fisheries Biology (4)
Prerequisite: Biology 457, one course in statistics, and consent of instructor. Advanced studies in the biology of fishes. Such topics as age, growth, foods, parasites, population dynamics, reproduction, migration, and economic pressures are covered. A technical report on the biology of a fish species is required. Three lecture and three laboratory hours each week.

462 Deep Sea Biology (3)
Prerequisite: Biology 362. Biology of animals inhabiting the deep sea environment off North Carolina. Emphasizes faunal zonation, abyssal zoogeography, high pressure and low temperature adaptations, reproductive strategies, origin and speciation in deep sea. Three hours each week.

465 (Chemistry 465) Biochemistry (3)
Prerequisite: Chemistry 312. Chemical properties and metabolism of amino acids, proteins, carbohydrates, lipids, and nucleic acids; enzyme kinetics; bio-energetics, regulatory mechanisms. Three hours each week.

466 Advanced Ecology (4)
Prerequisite: Biology 366. Advanced selected topics in ecosystem energetics, population dynamics, and community ecology. Emphasis on team teaching and student research. Two lecture and four laboratory hours each week.

467 (Chemistry 467) Biochemical Methodology (3)
Prerequisite or corequisite: Biology 465 or Chemistry 465 and consent of instructor. A laboratory course dealing with the techniques and methodology of modern biological chemistry. Topics include various types of chromatography and isolation and assay procedures for various biological molecules. One lecture and five laboratory hours each week.

468 Planktonology (4)
Prerequisite: Biology 365 or consent of instructor. The classification, productivity, life histories, and interrelationships of planktonic organisms and a survey of the literature dealing with plankton. Two lecture and four laboratory hours each week.

470 Ecology of Human Populations (3)
Prerequisite: Biology 345 and 455 or 466. A study of man's adaptation to diverse world environments utilizing geological, physiological, and ecological principles. Three hours each week.

472 Marine Phycology (4)
Prerequisite: Biology 205. An introduction to the morphology, life histories, and ecology of benthic marine algae with emphasis on special topics such as morphogenesis, ecotypic variation and speciation, phytogeography, or seasonal periodicity of growth and reproduction. Three lecture and three laboratory hours each week.

474 Morphology of Vascular Plants (4)
Prerequisite: Biology 205. A morphological survey of the major groups of vascular plants with emphasis on life histories, evolutionary trends, classification, and identification. Three lecture and three laboratory hours each week.

475 Plant Taxonomy (4)
Prerequisite: Biology 205. Identification, classification, and phylogeny of vascular plants with emphasis on flora of southeastern North Carolina. Field trips. Two lecture and four laboratory hours each week.

481 Marine Invertebrate Zoology (4)
Prerequisite: Biology 206. A field oriented course which provides in-depth ecological and taxonomic treatment of selected invertebrate groups. Three lecture and three laboratory hours each week.

485 Special Topics in Advanced Biology (1-6)
Designed to deal with selected topics not considered in detail in regular course offerings. More than one topic may be taken for credit.

491 Directed Individual Study (1-3)
Prerequisite: Biology 208, junior or senior standing, consent of instructor, and consent of department chairman.

495 Seminar (1-3)
Prerequisite: Junior or senior standing and consent of instructor. Individual reports and group discussions of the results of student field, laboratory and/or library research on selected topics in Biology. May be repeated for a maximum of 3 semester hours.

499 Honors Work in Biology (2-3)
Prerequisite: Second semester junior or senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

BUSINESS ADMINISTRATION

(School of Business Administration)

207 (Economics 207) Statistical Analysis for Business and Economics (3)
Prerequisite: Mathematics 111. Classification and presentation of business and economics data, statistical inference including estimation and hypothesis testing procedures, Bayesian inference, correlation and regression analysis, time series and index numbers.

235 Personal Finance (3)
Study of individual and family financial decisions. Designed to prepare the student to exercise intelligent control over income, expenditures, borrowing, savings, and investments. Recommended elective for non-business majors.

303 Computer Applications in Business (3)
Prerequisite: Business 207. The vocabulary necessary to communicate with the computer, including an introduction to programming using BASIC or FORTRAN. An extension of statistical techniques using canned statistical packages for business problems.

304 (Economics 304) Introduction to Management Science (3)
Prerequisite: Mathematics 225 and Business 207. Deterministic and probabilistic models applied to economics and business decision theory. Topics include conditional and expected values, linear programming, inventory control, PERT/CPM, waiting lines, and simulation.

310 Business Communications (3)
Prerequisite: English 102, Accounting 201 and Economics 251. Fundamentals of effective business communication with emphasis on writing business letters, papers, and reports.

335 Business Finance (3)
Prerequisite: Accounting 202 and Economics 251. An introduction to the finance function of business enterprises and to the analytical techniques used in making investment and financing decisions. Brief review of financial analysis, planning and control. Emphasis is on decisions involving working capital, long-term assets, long-term financing, and financial leverage.

345 Marketing (3)
Prerequisite: Accounting 202 and Economics 251. Basic functions, institutions, and problems involved in the distribution of goods and services. Emphasis is upon integrating the managerial approach with the behavioral concepts of the marketing process.

346 Retailing (3)
Prerequisite: Accounting 202 and Economics 251, 252. Principles and methods of retailing in relation to its economic environment, store location, layout, organization, operations, merchandising, purchasing, pricing, sales promotion and managerial control.

347 Advertising Management (3)
Prerequisite: Business 345 or consent of instructor. An interdisciplinary approach to the ethical, social and economic roles of advertising. Emphasis is upon the why in copywriting, illustration, layout, media selection, budgeting, and evaluation of advertising planning and effectiveness.

348 Sales and Sales Management (3)
Prerequisite: Business 345 or consent of instructor. Planning, organizing, directing, and controlling sales operations. Emphasis is on the functions and problems of the sales executive.

349 Consumer Behavior/Marketing Research (3)
Prerequisities: Business 207 and Business 345 or consent of instructor. The integration and application of the behavioral sciences in the marketing-decision system. Emphasis is placed on ways of gathering, processing, and analyzing information from the marketplace. Particular attention is placed on the effect of personality, interpersonal associations, and environmental factors on consumer behavior.

355 Principles of Management (3)
Prerequisites: Accounting 202 and Economics 251, 252. Managerial principles and practices universally applicable in the planning, organizing, staffing, motivating, and controlling of human and economic resources. The historical development of management thought is an integral part of the course.

356 Personnel Management (3)
Prerequisite: Business 355 or consent of instructor. An examination and evaluation of the concepts and principles used by the business and non-

business organization in human resource management. The course is designed to provide the broad understanding needed by supervisors and executives rather than personnel managers.

357 Operations Management (3)

Prerequisite: Business 304. An introduction to the operations function of product and service enterprises and to the concepts of modern analytical techniques used to design and control quantity, quality, and cost of output from the productive activities. Applications to non-manufacturing organizations are considered but emphasis is on the manufacturing enterprise.

358 Organizational Behavior (3)

Prerequisite: Business 355 or consent of instructor. An evaluation of the behavioral science concepts and principles applicable to organizations. The objective is to broaden the student's understanding of human behavior in the work place and to explain how such behavior can be channeled toward desirable goals for both the individual and the organization.

360 Real Estate (3)

Prerequisite: Consent of instructor. Principles of property management and practices relating to appraisal, sales, ownership, control, financing, and transfer of real property.

365 Risk Management and Insurance (3)

An introduction to the risk management function and to the basic methods used to handle risks facing the business enterprise, families, and individuals. Emphasis is on the insurance method of handling risk with study of the concepts underlying insurance, the fundamentals of insurance contracts, and a broad selection of policy coverages in the property and liability, and life and health fields.

370 Transportation (3)

Introductory analysis of the five domestic modes of the transportation industry. The basic theoretical principles of transportation economics and carrier-shipper interactivity are evaluated together with the application of such principles to relevant market conditions. Also synthesized are carriers', shippers', and labor's efforts to improve the industry's productivity.

406 Business Information Systems (3)

Prerequisites: Business 303 and Business 355. A study of basic systems concepts and information concepts and their application to the analysis, design, implementation and evaluation of computer-based business information systems.

435 Investments (3)

Prerequisite: Business 335 or consent of instructor. An examination of the major outlets for individual investment funds including corporate and U.S. government securities. Major emphasis is placed on common stock analysis and evaluation and portfolio management. In addition, the securities market as an institution is examined along with the various theories of market performance.

436 Financial Management (3)

Prerequisite: Business 335. Financial analysis and decision making in the modern business organization. Theoretical foundations of financial decision making are emphasized including both working capital and fixed capital requirements.

445 Marketing Management (3)
Prerequisite: Business 345 and senior standing. Concepts in demand analysis, coordinating marketing action, determining and evaluating policies and procedures, use and evaluation of research.

446 (Economics 446) International Trade and Finance (3)
Prerequisites: Accounting 202, Economics 251, 252, or consent of instructor. A consideration of international trade theory and international financial institutions, including comparative advantage, exchange rates, and balance of payments problems.

453 Management of Small Business (3)
Prerequisites: Business 335 and Business 355 or consent of instructor. A study of the special problems, analysis, and decision making involved in the development and management of small business. Emphasis on the professional small business manager and entrepreneur.

455 Business Policy (3)
Prerequisites: Business 304, 335, 345, 355, 357, and senior standing. Capstone course integrating the functions and policies of business decision making at the policy making level of management. Case study method is used.

461-462 Business law (3-3)
Prerequisite: Junior or senior standing or consent of instructor. Origin, nature, and classification of the law; state and national court systems; legal environment of business; contracts and negotiable instruments; agency, business organization; sales, warranties and security interests; personal and real property; estates and wills; and environmental law.

470 Transportation Management (3)
Prerequisite: Business 355 or consent of instructor. An overview of the relationship of management principles and concepts to the transportation industry (five modes) as the major component of the seven primary physical distribution activities (decision centers). Both domestic and international aspects are included.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Senior Seminar (3)
Prerequisite: Senior standing and consent of instructor. Special topics in management and marketing not regularly dealt with in other courses.

499 Honors Work (2-3)
Prerequisite: Senior standing. Independent work for honors students.

Chemistry

(Department of Chemistry)

101-102 General Chemistry (3-3)
Fundamental laws, principles, and theories of chemistry and a study of selected elements and compounds. Normally taken concurrently with General Chemistry Laboratory (101-51, 102-51). Three hours each week.

101-52, 102-51 General Chemistry Laboratory (1-1)
Prerequisite or corequisite: Chemistry 101-102. Introduction to techniques and equipment in the chemistry laboratory; interpretation of experimental results. Quantitative and qualitative analysis included. Three laboratory hours each week.

105-106-102 General Chemistry (2-2-3)
Fundamental laws, principles, and theories of chemistry and a study of selected elements and compounds. General Chemistry Laboratory 101-51 is normally taken concurrently with Chemistry 106 or Chemistry 101, and Chemistry 102-51 is taken with Chemistry 102. Chemistry 105-106, two hours each week. Chemistry 102, three hours each week.

107 Physical Science for Nurses (4)
A one-semester course designed for nursing students. Three lecture and three laboratory hours each week.

311-312 Organic Chemistry (3-3)
Prerequisite: Chemistry 102 and 102-51. Introduction to the chemistry of carbon compounds, including structural theory, synthesis, and reaction mechanisms. Normally taken concurrently with Organic Chemistry Laboratory (311-51, 312-51). Three hours each week.

311-51, 312-51 Orangic Chemistry Laboratory (1-1)
Prerequisite or corequisite: Chemistry 311-312. Three laboratory hours each week.

315-316 Advanced Techniques of Organic Chemistry (1-1)
Prerequisite or corequisite: Chemistry 311-312 and 311-51, 312-51. Theory and practice of chromatographic methods of separation and spectroscopic methods of identification. Three laboratory hours each week.

321 Physical Chemistry (3)
Prerequisite: Chemistry 102, Physics 202, and Mathematics 213. Chemical thermodynamics, reaction kinetics, and introduction to statistical mechanics. Three hours each week.

322 Physical Chemistry (3)
Prerequisite: Chemistry 102, Physics 202, Mathematics 213. Introduction to quantum mechanics with applications to the structure of atoms and molecules. Spectroscopy, statistical mechanics, and elementary nuclear and solid state theory. Three hours each week.

321-51, 322-51 Physical Chemistry Laboratory (1-1)
Prerequisite or corequisite: Chemistry 321 and 322, respectively. Three laboratory hours each week.

325 Brief Physical Chemistry (3)
Prerequisite: Chemistry 102 and one sequence in Physics. An abbreviated course in fundamentals of physical chemistry. Normally taken concurrently with Brief Physical Chemistry Laboratory (325-51). May not be taken for credit after 321 has been passed. Three hours each week.

325-51 Brief Physical Chemistry Laboratory (1)
Prerequisite or corequisite: Chemistry 325. Two laboratory hours each week.

333 (Environmental Studies 333) Analytical Chemistry in Environmental Problems (2)

Prerequisite: Chemistry 102 and 102-51. The theory of (a) sampling and sample preparation (air, water, etc.) (b) selective methods of quantitative gravimetric and volumetric analysis, (c) instrumental techniques, and (d) monitoring systems. Normally taken concurrently with Analytical Chemistry Laboratory in Environmental Problems (333-51). May not be taken for credit after 335 has been passed. Two hours each week.

333-51 (Environmental Studies 333-51) Analytical Chemistry Laboratory in Environmental Problems (2)
Prerequisite or corequisite: Chemistry 333 or 335. Four laboratory hours each week.

335 Quantitative Analysis (2)
Prerequisite: Chemistry 102 and 102-51. Theory of gravimetric and volumetric techniques, with some introduction to instrumental analysis. Normally taken concurrently with Quantitative Analysis Laboratory. May not be taken for credit after 333 has been passed. Two hours each week.

335-51 Quantitative Analysis Laboratory (2)
Prerequisite or corequisite: Chemistry 333 or 335. Four laboratory hours each week.

355 History and Literature of Chemistry (1)
Prerequisite: Junior standing. Introduction to chemical literature and sources of information and to the historical development of chemistry. One hour each week.

375 Chemical Oceanography (3)
Prerequisite: Chemistry 102. Sources, distribution, forms of occurrence, and reactions of chemical species in seawater. This course will emphasize estuarine reactions, dynamic equilibria, air-seawater and sediment-seawater reactions, and human impact on the oceans. Prior Geology 205 is recommended. Three hours each week.

377 Environmental Chemistry (3)
Prerequisite: Chemistry 102. A study of chemical principles which apply to processes of environmental degradation and pollution prevention. Three hours each week.

385 Industrial Chemistry (3)
Prerequisite: Chemistry 312. The characteristics of large scale chemical processes, including materials of construction, reactor design, fluid transport, solvent recovery and reuse, quality control, and environmental impact. Specific example processes include the conversion of raw petroleum feedstocks to plastics, fibers, and fuels, and the production of ethical drugs. Prior Chemistry 321 or 325 is recommended. Three hours each week.

415 Advanced Organic Chemistry (3)
Prerequisite: Chemistry 312. Theoretical organic chemistry with emphasis on reaction mechanisms and special synthetic methods. Three hours each week.

417 Medicinal Chemistry (3)
Prerequisite: Chemistry 312. Systematic study of the chemistry, as well as the biological activity, of hormones, vitamins, drugs affecting the nervous system, and other miscellaneous agents. Prior Chemistry 415 or Chemistry 465 is recommended. Three hours each week.

435 Advanced Analytical Chemistry (2)
Prerequisite: Chemistry 333 or 335, 321 or 325, and their laboratories. Theory

of modern analytical instrumentation and techniques. Normally taken concurrently with Advanced Analytical Chemistry Laboratory (435-51). Two hours each week.

435-51 Advanced Analytical Chemistry Laboratory (2)
Prerequisite or corequisite: Chemistry 435. Four laboratory hours each week.

445 Inorganic Chemistry (3)
Prerequisite: Chemistry 321 or 325. Advanced descriptive and theoretical inorganic chemistry. Three hours each week.

445-51 Inorganic Synthesis (1)
Prerequisite or corequisite: Chemistry 445. Synthesis and techniques in inorganic chemistry. Normally taken concurrently with Inorganic Chemistry (445). Three laboratory hours each week.

446 Advanced Inorganic Chemistry (3)
Prerequisite: Chemistry 322 and 445. Advanced topics in theoretical inorganic chemistry. Three hours each week.

465 (Biology 465) Biochemistry (3)
Prerequisite: Chemistry 312. Chemical properties and metabolism of amino acids, proteins, carbohydrates, lipids, and nucleic acids; enzyme kinetics; bioenergetics; regulatory mechanisms. Three hours each week.

467 (Biology 467) Biochemical Methodology (3)
Prerequisite or corequisite: Biology 465 or Chemistry 465. A laboratory course dealing with the techniques and methodology of modern biological chemistry. Topics include various types of chromatography and isolation and assay procedures for various biological molecules. One lecture and five laboratory hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Senior Seminar (1-3)
Prerequisite: Senior standing. Discussion of selected topics. One hour each week.

499 Honors Work in Chemistry (2-3)
Prerequisite: Second semester junior or senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

COMPUTER SCIENCE

(Department of Mathematical Sciences)

105 Survey of Computer Applications (2)
An introduction to data processing for non-majors with an emphasis on understanding capabilities without engineering or programming skill. History and structure of computer systems. Concepts of simulation, operational control, information management, and time-sharing with related terminology. Types of errors in computer based systems. Social implications of the future potential of computer technology. Practice with using programs in the university library. Two hours each week.

107 Programming Laboratory — SNOBOL (1)
Prerequisite: Computer Science 105 or consent of instructor. Elementary programming techniques for character-string processing and text editing. Emphasis will be placed on the pattern matching facilities of SNOBOL. Two hours each week.

111 Introduction to Computer Programming Using FORTRAN (3)
Prerequisite or corequisite: Mathematics 111 or 115. Algorithms and computer systems, data representation, survey of computer applications, elementary programming techniques in FORTRAN, debugging and verification of programs. Two lecture and two laboratory hours each week.

115 Programming Language — FORTRAN (2)
Prerequisite: Computer Science 111. Advanced programming techniques in FORTRAN. Computer solution to numeric problems. Two hours each week.

116 Programming Language — PL/1 (2)
Prerequisite: Computer Science 111. Elementary and intermediate programming techniques in PL/1. Computer solution to numeric and nonnumeric problems. Two hours each week.

117 Programming Language — COBOL (2)
Prerequisite: Computer Science 111. Elementary and intermediate programming techniques in COBOL. Computer solution to business oriented problems. Two hours each week.

118 Programming Languages — Interactive (2)
Prerequisite: Computer Science 111. Elementary programming techniques in BASIC and APL. Computer solution to interactive problems. Two hours each week.

207 Language Processing (3)
Prerequisite: Computer Science 107. The role of computers as tools in linguistic studies; literary applications of computing: verbal indexes, concordances, authorship controversies; computational linguistics; algorithms for manipulating character strings using the SNOBOL programming language. Three hours each week.

211 Assembly Language and Computer Organization (3)
Prerequisite: Computer Science 111. Computer structure, machine language, instruction execution, addressing techniques and digital representation of data. Computer systems organization, logic design, microprogramming, and interpreters. Symbolic coding and assembly systems, macro definition and generation, and program segmentation and linkage. Systems and utility programs, programming techniques, and recent developments in computing. Several computer projects to illustrate basic machine structure and programming techniques. Two lecture and two laboratory hours each week.

245 Systems Programming (3)
Prerequisite: Computer Science 211. Defining and use of system macros, bootstrapping, loaders, and link editors; input/output and interrupt handling; elementary assembler and compiler writing. Three hours each week.

305 Computer Graphics (3)
Prerequisite: Computer Science 111 and Mathematics 213. Display memory generation of points, vectors, etc. Interactive versus passive graphics. Analog storage of images on microfilm, etc. Digitizing and digital storage. Pattern

recognition by features, syntax tables, random nets, etc. Data structures and graphics software. The mathematics of three-dimensions, projections, and the hidden-line problem. "Graphical programs," computer-aided design and instruction, and animated movies. Three hours each week.

311 Programming Languages (3)

Prerequisite: Computer Science 332. Formal definition of programming languages including specification of syntax and semantics. Simple statements including precedence, infix, and postfix notation. Global properties of algorithmic languages including scope of declarations, storage allocation, grouping of statements, binding time of constituents, subroutines, coroutines, and tasks. List processing, string manipulation, data description, and simulation languages. Run-time representation of program and data structures. Three hours each week.

325 (Mathematics 325) Numerical Algorithms (3)

Prerequisite: Computer Science 111 and Mathematics 212. An introduction to the numerical algorithms fundamental to scientific computer work. Includes elementary discussion of error, polynomial interpolation, quadrature, linear systems of equations, solution of nonlinear equations, and numerical solution of ordinary differential equations. The algorithmic approach and the efficient use of the computer are emphasized. Three hours each week.

331 (Mathematics 331) Discrete Structures (3)

Prerequisite: Computer Science 111. Review of set algebra including mappings and relations. Algebraic structures including semigroups and groups. Elements of the theory of directed and undirected graphs. Boolean algebra and propositional logic. Applications of these structures to various areas of computer science. Three hours each week.

332 Data Structures (3)

Prerequisite: Computer Science 111. *Prerequisite or Corequisite:* Computer Science 331. Basic concepts of data. Linear lists, strings, arrays, and orthogonal lists. Representation of trees and graphs. Storage systems and structures, and storage allocation and collection. Multilinked structures. Symbol tables and searching techniques. Sorting (ordering) techniques. Formal specification of data structures, data structures in programming languages, and generalized data management systems. Three hours each week.

340 Computer Organization (3)

Prerequisite: Computer Science 211 and 331. Basic digital circuits, Boolean algebra and combinational logic. Data representation and transfer, and digital arithmetic. Digital storage and accessing, control functions, input-output facilities, system organization, and reliability. Description and simulation techniques. Features needed for multiprogramming, multiprocessing, and realtime systems. Other advanced topics and alternate organizations. Three hours each week.

410 Compiler Construction (3)

Prerequisite: Computer Science 245 and 311. Review of program language structures, translation, loading, execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation, error diagnostics, object code optimization techniques, and overall design. Use of compiler writing languages and bootstrapping. Three hours each week.

415 Formal Languages and Syntactic Analysis (3)

Prerequisite: Computer Science 311 and 332. Definition of formal grammars:

arithmetic expressions and precedence grammars, context-free and finite-state grammars. Algorithms for syntactic analysis: recognizers, backtracking, operator precedence techniques. Semantics of grammatical constructs: reductive grammars, Floyd productions, simple syntactical compilation. Relationship between formal languages and automata. Three hours each week.

420 Simulation Techniques (3)

Prerequisite: Computer Science 331, Statistics 361. Introduction to simulation and comparison with other techniques. Discrete simulation models, and introduction to, or review of, queueing theory and stochastic processes. Comparison of discrete change simulation languages. Simulation methodology including generation of random numbers and variates, design of simulation experiments for optimization, analysis of data generated by simulation experiments, and validation of simulation models and results. Selected applications of simulation. Three hours each week.

425 (Mathematics 425) Numerical Analysis (3)

Prerequisite: Mathematics 275, 315, Computer Science 325. A thorough treatment of solutions of equations, interpolation and approximations, numerical differentiation and integration, and numerical solution of initial value problems in ordinary differential equations. Selected algorithms will be programmed for solution on computers. Three hours each week.

431 Switching Theory (3)

Prerequisite: Computer Science 331. Switching algebra, gate network analysis and synthesis, Boolean algebra, combinational circuit minimzation, sequential circuit analysis and synthesis, sequential circuit state minimization, hazards and races, and elementary number systems and codes. Three hours each week.

432 Sequential Machines (3)

Prerequisite: Computer Science 431. Definition and representation of finite state automata and sequential machines. Equivalence of states and machines, congruence, reduced machines, and analysis and synthesis of machines. Decision problems of finite automata, partitions with the substitution property, generalized and incomplete machines, semigroups and machines, probabilistic automata, and other topics. Three hours each week.

435 Theory of Computability (3)

Prerequisite: Computer Science 331. Introduction to Turing machines, Wang machines, Shepherdson-Sturgis, and other machines. Godel numbering and unsolvability results, the halting problem. Post's correspondence problem, and relative uncomputability. Machines with restricted memory access, limited memory, and limited computing time. Recursive function theory and complexity classification. Models of computation including relationships to algorithms and programming. Three hours each week.

440 Advanced Computer Organization (3)

Prerequisite: Computer Science 340. Study of computer organization and how it relates to software development in the areas of data representation and control, memory hierarchies, protection mechanisms, specialized processors, and multiple processors. Three hours each week.

445 Operating Systems (3)

Prerequisite: Computer Science 245 and 311. Review of batch process systems programs, their components, operating characteristics, user services and their limitations. Implementation techniques for parallel processing of input-output and interrupt handling. Overall structure of multiprogramming systems on multiprocessor hardware configurations. Details on addressing

techniques, core management, file system design and management, system accounting, and other user-related services. Traffic control, interprocess communication, design of system modules, and interfaces. System updating, documentation, and operation. Three hours each week.

475 Topics in Computer Science (3)
Prerequisite: Senior standing and permission of instructor. Topics of current interest in computer science not covered in existing courses. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Seminar in Computer Science (1)
Prerequisite: Junior or senior standing and consent of instructor.

499 Honors Work in Computer Science (2-3)
Prerequisite: Eligibility for honors program. Individual study for honors students.

For 292 and 492, see explanation on p. 119.

CRIMINAL JUSTICE

(Department of Sociology and Anthropology)

201 The Criminal Justice System (3)
Prerequisite: Sociology 105. A study of the various components of North Carolina's criminal justice system will include an analysis of the structure and function of law enforcement agencies, the court system, corrections and probation systems. Three hours each week.

245 Police in a Changing Society (3)
Evolution of law enforcement systems and practices through the ages. Emphasis will be placed on the effects of societal changes and on survey of comparative police systems. Three hours each week.

301 (Social Work 301) Methods and Techniques of Social Welfare and Rehabilitation Services (3)
Prerequisite: Sociology 105. An introduction to the basic principles, methods and techniques which form the basis for social work practice with special emphasis on the professional use of self and the utilization of systematic processes of problem solving in the delivery of social and rehabilitation services. The interview, social study, information gathering, group leadership, and other problem solving methods will be introduced. Three hours each week.

306 (Social Work 306) Evaluative Methods for Service Agencies (3)
Prerequisite: Sociology 301, Statistics 205 and one Computer Science course. Interviewing, participant-observation, enthnomethodology evaluative research, analysis of data and its implications, research methods with emphasis on practical application. Three hours each week.

356 Critical Issues in Criminal Justice (3)
Prerequisite: Criminal Justice 201. This course will be a study of crime, law-

lessness, civil unrest and violence as issues relating to the administration of criminal justice, focusing on the current role of the system, the problems arising from attempting to fill that role, and some role modification that will improve the general operation of the criminal justice system. Three hours each week.

395 Corrections (3)
Prerequisite: Criminal Justice 201. An historical review of societal patterns of punishment, an in-depth analysis of the diversity of alternatives to incarceration, and an examination of practical data related to counselor-counselee relationships in correctional settings are course objectives. Three hours each week.

405 Criminal Justice Administration (3)
Prerequisie: Criminal Justice 201, 356 and consent of instructor. A concentration on management techniques for each administrative segment of criminal justice: the police, the courts, prosecution/defense, probation, parole and corrections. It will offer alternative models, based on a system approach to function and role, that relate each criminal justice sub-system administratively to the others. Three hours each week.

490 Criminal Justice Practicum (3-6)
Prerequisite: Junior or senior standing and consent of instructor. A course designed to acquaint students with the criminal justice agencies of all governmental levels. Observation of agency programs and activities in applied criminal justice are integrated with formalized knowledge gained in the classroom to provide the student with beginning knowledge, skills and attitudes consistent with his career plans.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of instructor.

495 Topical Seminar (1-3)
Prerequisite: Junior or senior standing and consent of instructor. Consideration of special topics not dealt with in the regular courses.

For 292 and 492, see explanation on p. 119.

DRAMA

(Department of Creative Arts)

101 Stagecraft/Workshop (2)
Theatre stage orientation through the handling of scenery, properties, costumes and lights. Practical applications of theatre working in conjunction with weekly play production. Two four-hour sessions per week. Summer sessions only.

102 Stagecraft/Workshop (2)
Prerequisite: Drama 101 or consent of the instructor. Continued application of stage work in scenery, properties, costumes and lights in conjunction with weekly play production. Two four-hour sessions per week. Summer sessions only.

130 Improvisation (3)
Exploration of spontaneous dramatic playing through intensive exercises

and theatre games meant to generate greater individual freedom and self-discipline, as well as to employ improvisation techniques in acting to develop characterization, stage movement, and ensemble performance.

135 (Physical Education 102) Dance Techniques (1)
Basic dance technique on a beginner level, including ballet, jazz, and modern dance.

136 Movement Exploration (2)
Exploration of the relationship of dance to other art forms. Study through modern and creative dance techniques of the body's potential as a tool for creative expression, emphasizing the opportunity to demonstrate interrelationships in the arts through weekly choreographic assignments.

201 Stagecraft and Shop (2)
Basic principles of scenic materials and equipment. Use of materials, methods of construction and handling of scenery and properties. One lecture and three laboratory hours per week plus participation in the University Theatre productions required.

202 Stagecraft and Shop (2)
Prerequisite: 201 or consent of instructor. Practical training in workshop organization and technical production plus basic principles of theatrical graphics. One lecture and three laboratory hours each week plus participation in University Theatre productions required.

205 Stage Make-up (2)
Theory and practice in the application of make-up for theatrical performances. Four laboratory hours each week.

221, 222 History and Appreciation of the Theatre (3, 3)
Definitions and functions of the theatre in relationship to the cultures which produce it. 221: Greek Golden Age to Romantic Period. 222: Ibsen to the present. Three hours each week.

225 History and Appreciation of Film (3)
A survey through film of the development of motion picture from its primitive beginnings to the advent of sound film. A visual illustration of the basic aesthetic principles controlling film as art.

231 Acting I (4)
Prerequisite: Permission of instructor. Use of body and voice as instruments of expression; development of acting exercise structure with mind and breathing control practiced. Three class hours and 2½ laboratory hours each week.

232 Acting II (4)
Prerequisite: Acting I and/or permission of instructor. Continuing and expanding work on the use of body and voice. Further development of acting exercise structure with emphasis on improvisation and one scene study. Three class hours and 2½ laboratory hours each week.

305 Scenic Design (3)
Prerequisite: Drama 202 or consent of instructor. Play interpretation through the scenic elements. Problems in theatre graphics, techniques applications, script interpretation, scenic design and style. Two class hours and two laboratory hours each week.

306 Stage Lighting (3)
Prerequisite: Drama 202 or consent of instructor. Basic techniques of theatrical lighting. Includes fundamentals of electricity, lighting equipment, and the use of color. Two class hours and two laboratory hours each week.

307 Theatre Production (3)
Lectures and practical experience in all phases of production: staging, management, publicity, public relations, properties, house management, costumes, special effects and sound included. Deals with the responsibilities and actual duties of all personnel. Three lecture hours each week.

321-322 Theatre History (3-3)
321: Greek beginning to the Romantic Period. 322: 17th century through 19th century. Three hours each week.

325 Drama and Social Change (3)
Study of the patterns and results of social change on universal life as documented and portrayed in drama. Three hours each week.

333 Acting III (1-4)
Prerequisite: Acting I and II and/or consent of instructor. Scene study. A contractual course with individual student commitment concerning the number of scene studies to be attempted. Can be taken for up to four hours accumulative maximum.

345 Playwriting I (3)
Analysis of one-act plays and their construction; the writing of an original one-act play required. Three hours each week.

355 Directing I (3)
Fundamental principles of directing with emphasis on one-act productions. Three hours each week.

425 Aesthetics of Film (3)
A study of the various forms and content of film as controlled by the film director. The theoretical aspects of film as a work of art. Two class hours and two laboratory hours each week.

445 Playwriting II (3)
Prerequisite: Drama 345 or permission of instructor. Advanced techniques of playwriting with emphasis on full length play; the writing of an original full length play. Three hours each week.

455 Directing II (3)
Prerequisite: Drama 355. Advanced techniques in the direction of plays for the stage. Three hours each week.

461, 462 Seminar in Dramatic Theory (3, 3)
Prerequisite: Senior standing or consent of instructor. Growth and results of dramatic theory on theatre. 461: Aristotle to Romantic Period. 462: Ibsen to the present. Three hours each week.

485 Senior Project (3)
Every major must choose a specific area in drama for a senior project. The proposal for planning and executing a public presentation in the chosen area must be submitted to the faculty of the Department of Creative Arts for approval prior to the semester during which the project will be attempted.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Theatre Seminars (1-3)

499 Honors Work in Drama (2-3)
Prerequisite: Senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

EARTH SCIENCES

(Department of Earth Sciences)

210 (Anthropology 210) Evolution of Man and the Development of Culture (3)
Critical analysis of the fossil evidence leading to current theories of human evolution. Examination and correlation of fossil remains and artifacts preserved in the geologic record as related to the anatomy and behavior of living human and non-human primate groups. Three lecture hours each week.

230 Earth Science Graphics (3)
Methods of graphic expression related to natural science in general; use of various media; methods of reproducing graphic works; introduction to aerial photography interpretation and basic map use. One lecture and four laboratory hours each week.

390 History of Earth Sciences (3)
Prerequisite: Junior standing with a departmental concentration or consent of the staff. Development of scientific thought in the earth sciences; study of the traditional backgrounds to modern research in earth sciences. Three hours each week.

490 Research in the Earth Sciences (3)
Prerequisite: Senior standing with a departmental concentration. Research on selected problems in the earth sciences. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Senior Seminar (1-3)
Prerequisite: Senior standing with a departmental concentration or consent of the staff. May be repeated one time for credit. One to three hours each week.

499 Honors Work in Earth Sciences (2-3)
Prerequisite: Eligibility for honors program and recommendation of department chairman. Individual study for honors students.

For 292 and 492, see explanation on p. 119.

ECONOMICS

(School of Business Administration)

105 Survey of Economics (3)
An introduction to economic principles for non-business and non-economics majors. Current analysis rather than theoretical analysis is utilized to present and show the relevance of economic principles.

207 (Business 207) Statistical Analysis for Business and Economics (3)
Prerequisite: Mathematics 111. Classification and presentation of business and economics data, statistical inference including estimation and hypothesis testing procedures, Bayesian inference, correlation and regression analysis, time series and index numbers.

251 Principles of Economics (Micro) (3)
Prerequisite: Mathematics 111. Analysis of decision-making processes and economic equilibrium for the individual firm and consumer at an introductory level.

252 Principles of Economics (Macro) (3)
Prerequisite: Mathematics 111. Aggregate economic analysis examining the effects of fiscal and monetary policy upon aggregate employment, income, and prices at an introductory level.

304 (Business 304) Introduction to Management Science (3)
Prerequisites: Mathematics 225 and Economics 207. Deterministic and probabilistic models applied to economics and business decision theory. Topics include conditional and expected value, linear programming, inventory control, PERT/CPM, waiting lines, and simulation.

305 (Environmental Studies 305) Environmental Economics (3)
Prerequisites: Economics 105, 251, or 252 and consent of instructor. Application of economic concepts to environmental problems; common property resources, public goods, and technological externalities as determinants of market failure; institutional alternatives involving economic incentives.

315 Intermediate Price Theory (3)
Prerequisites: Economics 215, 252. A theoretical analysis of individual consumer and firm behavior and general equilibrium.

316 National Income Analysis (3)
Prerequisites: Economics 251, 252. A theoretical analysis of the determination of aggregate income, aggregate employment, and the average price level and role of monetary and fiscal policy in the determination of such.

327 Money and Banking (3)
Prerequisites: Economics 251, 252. A theoretical and empirical analysis of the effects of money on aggregate income and employment and the average price level. Analysis of the tools and policy of the Federal Reserve. An overview of banks and other financial intermediaries.

336 Financial Institutions (3)
Prerequisite: Business 335 or consent of instructor. An examination of the workings of the money and capital markets including the manner in which financial institutions and markets play a role in the transmission of macro-financial policy actions to various sectors of the economy. The impact of these macro variables on the internal financial manager.

338 Public Finance (3)
Prerequisites: Economics 251, 252. Study of state, local, and federal government revenues and expenditures: (1) Facts of public revenues and expenditures; (2) Theory of public sector-social goods, social balance, and fiscal neutrality; (3) Methods of achieving efficiency in government — benefit-cost analysis, program budgeting (PPB), and pricing of government services.

401 History of Economic Thought (3)
Prerequisites: Economics 315, 316 or consent of instructor. Scientific economic thought and philosophy from ancient to modern times. Open-ended as to dates of time period covered. Primary emphasis is on topics as opposed to schools of thought.

417 Introductory Econometrics (3)
Prerequisites: Business 207 and Economics 315 or 316. An introduction to the formalization of economic hypotheses into testable relationship and the application of appropriate statistical techniques. Theoretical aspects are covered, but primary emphasis is on computer application utilizing regression analysis.

420 Managerial Economics (3)
Prerequisites: Economics 207, 315. Economic theory of the firm; mathematical models of the firm; the internal decision-making process.

426 Comparative Economic Systems (3)
Prerequisite: Consent of instructor. Analysis of economic systems operating under capitalism, socialism, communism, and fascism; institutions and organization of production and government; decision-making; distribution of income; problems of developing nations.

427 Labor Economics (3)
Prerequisites: Economics 251, 252. An analysis of the demand for and the supply of labor at the individual and the aggregate level, labor unions and collective bargaining.

428 Regional Growth and Development (3)
Prerequisites: Economics 251, 252. Theories of subnational or regional economic growth. Measures of regional economic growth. Policies to alleviate problems resulting from disparate rates of regional economic growth.

446 (Business 446) International Trade and Finance (3)
Prerequisites: Accounting 202, Economics 251, 252 or consent of instructor. A consideration of international trade theory and international financial institutions, including comparative advantage, exchange rates and balance of payments problems.

491 Directed Individual Study (1-6)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Senior Seminar in Economics (3)
Prerequisites: Economics 315, 316 and consent of instructor. An examination of current problems in economics organized on a discussion-research basis. The content of the course will vary as changing conditions require the use of new approaches to deal with current issues.

499 Honors Work (2-3)
Prerequisite: Senior standing. Independent work for honors students.

EDUCATION

(School of Education)

200 Teacher, School, and Society (4)

This course will address two purposes: to orient the student to the role of the teacher and to provide the student with understanding of the structure and purposes of the professional education program which he is entering. Major topics of consideration will include socio-cultural, governmental, and organizational influences bearing on the role of teacher, careers in education, systematic approaches to instruction, and analysis of classroom behavior. A variety of group and individual activities, including structured field experiences, will be provided. Three hours of instruction and two hours of field activity each week.

201 Instructional Program Development I (3)

Prerequisite: Education 200 or permission of department chairman. The first of a two-part sequence designed to provide the conceptual tools and analytic skills necessary to plan, implement, and evaluate instructional programs, this course will focus on the fundamental components of instructional program development. Topics of study will include goal setting, theory building, prediction and hypothesis development, planning strategies, task analysis, organization for instruction, and design of instructional systems. Three hours each week.

202 Instructional Program Development II (3)

Prerequisite: Education 201. The second of a two-part sequence in instructional design, this course will develop further the specific skills in program development, critical anaylsis, and communication. Topics of study will include selection and evaluation of instructional resources, design of feedback systems, measurement, and data organization and interpretation. Three hours each week.

250 Reading Foundations (3)

A foundations course for all elementary majors. Emphasis on linguistic and psychological bases of the reading process, stages in the development of reading ability, and sequences of skill acquisition. Students will study models of reading instruction, the role of the classroom teacher of reading, and forces influencing that role. Three hours each week.

260 Introduction to Exceptional Children (3)

The types of exceptionality including mental retardation, learning disabilities, speech and hearing, visually handicapped, emotional disturbance, physically handicapped and giftedness. Three hours each week.

310 School-Community Relations (3)

Required of students concentrating in early childhood education. Methods of improving school-community relations. Three hours each week.

319 Individualizing Instruction (3)

Prerequisites: Education 200 or consent of instructor, and Education 201 and Psychology 216 are recommended. This course will focus on strategies for meeting needs of individuals in the regular classroom. Students will study alternative methods for dealing with pupil differences that have an impact on learning. Characteristics of children with academic, intellectual, social-emotional, physical, cultural and language differences will be examined. Three hours each week.

322 Teaching Arithmetic, Grades K-3 (3)
Prerequisite: Education 200. Study of methods and materials for the teaching of arithmetic kindergarten through third grade. Different theories of thinking and language development and implications for the teaching of arithmetic in the early grades will be studied. Three hours each week.

323 The Teaching of Mathematics (4-9) (3)
Prerequisites: Six semester hours of appropriate mathematics. Focus on materials and methods for teaching mathematics in grades 4-9. Logical, psychological and sociological considerations of the teaching of mathematics. Examination of curricula appropriate at the intermediate level. Three hours each week.

330 Science/Social Studies Methods (K-3) (3)
Designed for the Early Childhood major. Materials and methods for the teaching of social studies and science. Applications of the social and natural sciences appropriate for the student in grades K-3. Three hours each week.

335 Social Studies Methods and Curriculum (4-9) (3)
Prerequisites: EDN 200, 201, and 6 hours of social studies content. The various methods and strategies of teaching social studies including problem solving, simulations, and individualizing instruction with a strong emphasis on the unit approach will be explored. Field experiences will be planned, enabling the student to have an opportunity for executing units of study. An overview of the curriculum content 4-9 will be emphasized. Three hours each week.

336 The Teaching of Science (4-9) (3)
Prerequisites: Seven (7) hours of science at the college level. Designed for Elementary Education majors seeking certification at the 4-9 level. Methods of teaching the biological and physical sciences. Applications of the sciences to classroom experimentation and investigation. Examination of contemporary curricula used at the intermediate level. Three hours each week.

344 Books and Materials for Early Childhood Education (3)
The selection and evaluation of books written for children. Appraisal of illustrations and other instructional media for preschool and primary children, their functions and correlation with the early childhood curriculum will be studied. Three hours each week.

348 The Communication Arts: Reading/Language Arts (K-3) (3)
Prerequisite: Reading 250. An understanding and appreciation of children's language capabilities at school entrance and patterns of language growth through early school years will be developed. Various approaches to school language instruction will be examined. Students will learn strategies and methods for promoting growth in speaking, listening and writing in primary classrooms. Building on the reading foundations course, students will learn how to teach children to read and how to integrate reading and language experience. They will have extensive opportunities to assess, teach, and evaluate all areas of children's language and reading development in actual public school classroom. Three hours each week.

351 Language Arts Methods for the Middle School (4-9) (3)
Prerequisite: Reading 250. The status and process of reading/language growth of middle grade children will be studied. Building on the reading foundations course, students will learn how to extend basic reading skills and more specialized content reading skills. They will learn how to foster

development of speaking, listening and writing skills as well as children's understanding of the structure and conventions of their language. Students will teach a variety of supervised lessons using an integrated reading/ language arts approach as well as individualized instruction model. Three hours each week.

356 Reading in Content Areas (3)

Prerequisites: Education 200 and 201. Required course in the teaching of reading for secondary majors. Basic instructional reading strategies are developed, with emphasis on introducing assignments, improving study skills, and fostering critical thinking. Students identify and learn to teach reading skills specific to varying content areas. Adjusting instruction to students' reading capabilities is stressed. Three hours each week.

364 Introduction to Mental Retardation (3)

A survey course with emphasis on historical aspects, social and family relationships, characteristics, diagnosis, institutionalization and etiology of mental retardation. Three hours each week.

366 Introduction to Learning Disabilities (3)

A survey course with emphasis cn historical aspects, social and family relationship, characteristics, diagnoses and etiology of learning disabled. Three hours each week.

367 Teaching Techniques for the Mildly Handicapped Child (3)

Prerequisite: Education 364 or consent of instructor. Development of the ability to use appropriate strategies. Methods, techniques, and materials and the ability to design, implement, and evaluate learning programs for mildly handicapped children. Three hours each week.

368 Formal and Informal Diagnostic Techniques in Special Education (3)

Various ways and means of evaluating and diagnosing learning difficulties of exceptional children. Three hours each week.

369 Prescription Development in Special Education (3)

Prerequisite: Education 368 or consent of instructor. Development of educational prescriptions for exceptional children with emphasis on the mildly handicapped child. Three hours each week.

404 Basic Philosophies of Education (3)

Philosophies of education and their influence on the curriculum. Three hours each week.

407 Teaching Practices and Techniques (3)

Development of techniques of teaching; successful practices in teaching. Three hours each week.

408 Instructional Methods (6)

Corequisite: Education 409. *Prerequisite:* Education 200, 201, (or departmentally approved equivalents) and 250 or 356 as appropriate; Psychology 220 or 221 as appropriate and permission of the School of Education. Intensive examination of instructional methods in the student's area of specialization. Activities will be related to the student's practicum assignment, and emphasis will be placed on the development of instructional plans to be implemented in the practicum setting. Areas of specialization: Early Childhood Education (K-3); English; French; Intermediate Education (4-9); Mathematics; Physical Education; Science; Social Studies; Spanish; Special Education.

409 Practicum (9)
Corequisite: Education 408. *Prerequisite:* As specified for Education 408. Students will be assigned full-time to practicum sites within their areas of specializations. During the course, students will engage in a variety of supervised instructional activities, assuming increasingly wider responsibility for class instruction. Practica are offered in the areas of specialization listed above under Education 408.

415 Educational Media Design and Production (3)
This course will provide students with an understanding of the design principles underlying the production of instructional materials and with the necessary production techniques. Emphasis will be placed upon the production of materials and their effective integration into an instructional unit. Students will design, produce, and evaluate a number of projects using techniques common to media programs in public schools and the authors who have made contributions to this field. Three hours each week.

446 Black Literature and Resources for Teachers (3)
A survey of Black literature, including the examination of materials published for classroom use in the public schools and the authors who have made contributions to the field. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

499 Honors Work in Education (2-3)
Prerequisite: Senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

ENGINEERING

(Department of Earth Sciences)

111 Engineering Graphics (3)
Fundamentals of drafting and use of instruments, lettering, geometric constructions, orthographic projection, auxiliaries, sections, fasteners, dimensioning, freehand sketching; axonemetric, oblique, and perspective views and fundamentals of working drawings. Basic construction and topographic drafting, inking, methods of reproduction; descriptive geometry, graphical solution of spatial point, line and plane problems. One lecture and three laboratory hours each week.

211 Land Surveying (3)
Prerequisite: Math 111 or consent of instructor. The elements of plane surveying; basic instrument nomenclature, use and adjustment, methods of surveying plots of land using the metes and bounds system; an introduction to the public land surveys; methods of basic surveying computation involving horizontal, vertical and angular measurements; legal aspects of surveying (legal term definitions, recording processes, federal, state and local laws and codes); basic methods of subdivision. Two hours of lecture and three hours of laboratory each week.

212 Route Surveying (3)
Prerequisite: EGN 211 or consent of instructor. The elements of plane route surveying to include the operations involved in horizontally and vertically

aligning roadways (highways and railroads) and the computations involved in the various operations; horizontal and vertical curves; procedures peculiar to roads, canals, transmission lines, pipelines, storm and sanitary sewers, urban utility surveys, along with the incidental storm drainage design and layout for certain roadway situations. Two hours of lecture and three hours of laboratory each week.

221 Geodetic Surveying (3)
Prerequisite: EGN 211. The application of many of the principles of geodesy for the purpose of transitioning from surveys on a plane to surveys on an oblate spheroid (Earth). The use of spherical trigonometry and some of the calculus in geodetic surveys; the N.C. State Plane Coordinate System; some experience in electronic distance measuring; methods of computation and field methods of triangulation, trilateration and traverse; astronomical observations and computations involved to determine latitude, longitude and azimuth (direction) from one point to another. Two hours of lecture and three hours of laboratory each week.

222 Topographic Surveying and Mapping (3)
Prerequisite: EGN 211. The field and office processes necessary to prepare topographic and hydrographic maps of a specified area. The many methods of data acquisition over land and water areas are examined and practiced during the course to include: radial line surveys, x.y.z. coordinate surveys, aerial surveys and the plane table. The actual preparation of a "live" map from field survey to finished inked map is a primary part of the course. Two hours of lecture and three hours of laboratory each week.

ENGLISH

(Department of English)

101-102 Composition (3-3)
Work in grammar and various types of expository and persuasive writing, frequent themes. Three hours each week; students experiencing serious difficulties may be required also to attend the Writing Center.

110 Introduction to Literature (3)
Study of three literary genres — poetry, drama, and short fiction — in terms of basic components and structures. Three hours each week.

210 Mythology (3)
The major mythological systems of Western society — Greek, Roman, and Norse. Mythology of other parts of the world and related material are also considered. Three hours each week.

211, 212 Great British Writers (3, 3)
Prerequisite: English 102. 211: Writings before 1800; 212: Writings since 1800. Three hours each week.

219 General Fiction (3)
A thematic approach to fiction for students who enjoy extensive reading of current novels.

222 Literature of the Sea (3)
A survey of nautical literature, both fiction and non-fiction, with a general introduction to nautical language and sailing terms. Extensive reading in the literature.

224 Detective Fiction (3)
Extensive reading in major authors from Poe to the present, with some discussion of developments in the mystery form.

230 Women in Literature (3)
Twentieth-century literature by and about women. Focus on changes in images and roles of women. Includes fiction, poetry, and essays. Three hours each week.

245 Journalism (3)
Prerequisite: English 101. Introduction to news writing. Includes news stories, editorials, feature articles and reviews. Three hours each week.

301 Scientific Writing (3)
Prerequisite: English 102. Techniques and structure in scientific writing, emphasizing abstracts, proposals, progress reports, final reports, oral reports, journal articles, and professional papers.

305 Advanced Grammar (3)
Prerequisite: English 102. Various current theories and approaches to understanding the structure of English. Three hours each week.

306 Advanced Composition (3)
Prerequisite: English 102. Instruction in writing the objective report, descriptive analysis, extended definition, explication, and critical analysis, among other expository types; consideration of writing problems, strategies, and styles. Three hours each week.

307-308 Creative Writing I, II (3-3)
307: *Prerequisite:* English 102. Instruction in writing fiction, including critical evaluation by instructor and class of student's original works. Three hours each week. 308: *Prerequisite:* Creative Writing I or consent of instructor. Intensive practice in writing fiction or poetry, with emphasis upon developing the indiviudal student's interests and abilities. Three hours each week.

309 Poetry Writing (3)
Prerequisite: English 102. Instruction in writing poetry. Criticism and class discussion of original poems by students. Includes practice in various verse forms as well as developing students' individual abilities.

311 General Linguistics (3)
Prerequisite: English 102. An introductory course in linguistics. Topics include phonetics; the phonological, semantic, and syntactic organization of language; language acquisition by children; language change; theories of language origin; and animal "languages." Three hours each week.

312 Semantics: Language and Meaning (3)
Prerequisite: English 102. The study of language as it affects our thinking and behavior; language and prejudice; the language of advertising, propaganda, science, and poetry; slanting, euphemisms, jargon, connotations, abstraction. Three hours each week.

313 History of the English Language (3)
Prerequisite: English 102. The development of the English language from Old English to the present; changes in sounds, vocabulary, syntax, meaning, and spelling; formation of American dialects. Three hours each week.

315 Twentieth Century European Literature (3)
Prerequisite: English 102. Study of such writers as Joyce, Mann, Camus, Kafka, Tolstoy and Conrad. Three hours each week.

316 Romantic Literature (3)
Prerequisite: English 102. Major and minor poetry and prose, 1783-1837. Emphasis on new trends in poetry, the role of the artist, and Romantic critical theory. Three hours each week.

317 Victorian Literature (3)
Prerequisite: English 102. Poetry and prose from 1837-1901. Artistic achievements and literary movements. Intellectual and social problems of the Victorians reflected in their literature. Three hours each week.

318 The English Novel (3)
Prerequisite: English 102. The study of representative classic novels from Fielding's *Tom Jones* (1749) to Bennett's *The Old Wives' Tale* (1915). Includes overview of fiction preceding the first English novel. Three hours each week.

320 Early American Literature (3)
Prerequisite: English 102. Poetry and prose from 1620-1820, emphasizing three dominant literary attitudes — Puritanism, Neo-Classicism, and Pre-Romanticism — in works by Bradford, Franklin, Irving, Bryant, and Cooper, among others. Three hours each week.

321 American Romanticism (3)
Prerequisite: English 102. Poetry and prose from 1820-1855, including Whitman's free verse, Emerson's essays, Thoreau's *Walden,* and short fiction by Poe, Hawthorne, and Melville. Three hours each week.

322 American Realism (3)
Prerequisite: English 102. Realism and naturalism in literature from 1855-1900, emphasizing Dickinson's poetry and fiction by Twain, Howells, James, and Crane. Three hours each week.

325 Twentieth Century American Fiction (3)
Prerequisite: English 102. Short stories and novels from 1900 to 1950. Three hours each week.

326 Southern American Literature (3)
Prerequisite: English 102. Study of Southern fiction, emphasizing nineteenth century southwestern humor sketches and twentieth century short stories and novels by Faulkner, Welty, Caldwell, and others. Three hours each week.

327 North Carolina Literature (3)
Prerequisite: English 102. Interpretive study of writers such as Charles Chesnutt, O. Henry, Paul Green, Thomas Wolfe, Randall Jarrell, Robert Ruark, A.R. Ammons, Doris Betts, and Reynolds Price. Three hours each week.

330 Interpretation of Poetry (3)
Prerequisite: English 102. Study of traditional and contemporary poets and poetic forms with emphasis on how to read and interpret poetry. Three hours each week.

333 Science Fiction (3)
Prerequisite: English 102. Study of major science fiction writers such as Wells, Asimov, Clarke, Heinlein, LeGuin, Bester, Miller, and Bradbury. Three hours each week.

335 Major Forms of Drama (3)
Prerequisite: English 102. Development of tragedy, comedy, and modern forms; includes the work of dramatists such as Aeschylus, Aristophanes, Jonson, Marlowe, Moliere, Congreve, Racine, Ibsen, Chekov, Strindberg, O'Neill, and Williams, with attention to historical background and dramatic criticism. Three hours each week.

336 The Short Story (3)
Prerequisite: English 102. Analysis and interpretation. Three hours each week.

339 Modern British and American Drama (3)
Prerequisite: English 102. Representative plays by such dramatists as Shaw, Yeats, Galsworthy, O'Casey, Maugham, O'Neill, Hellman, Odets, Williams, and Saroyan, with attention to themes and techniques reflecting the social, political, and philosophical concerns of the twentieth century. Three hours each week.

341 The Nineteenth Century British Novel (3)
Prerequisite: English 102. Study of the novel as a form, illustrated by nineteenth century novels ranging from Dicken's *Dombey and Son* to Hardy's *Tess of the d'Urbevilles.* Three hours each week.

345 Literature for Youthful Readers (3)
Prerequisite: English 102. Study of folklore, fantasy, contemporary realistic fiction, biography, non-fiction, and poetry, designed for teachers (4-9) and parents. Three hours each week.

351 Shakespeare: The Comedies (3)
Prerequisite: English 102. Emphasis is on dramatic literary qualities as well as interpretation of the plays. Usually seven to nine plays are studied. Three hours each week.

352 Shakespeare: The Tragedies (3)
Prerequisite: English 102. Emphasis is on dramatic literary qualities as well as interpretation of the plays. Usually seven to nine plays are studied. Three hours each week.

353 Shakespeare: The Histories (3)
Prerequisite: English 102. Emphasis is on dramatic literary qualities as well as interpretation of the plays. Usually seven to nine plays are studied. Three hours each week.

355 The Literature of Medieval England (3)
Prerequisite: English 102. A survey of works written in England between 500 and 1500 A.D., exclusive of Chaucer. Genres to be studied include chronicle, biography, epic, romance, lyric, elegy, dream vision, and drama. Three hours each week.

385 Soviet Russian Literature (in translation) (3)
Prerequisite: English 102. Interpretation of Russian literature since the Revolution (1917), emphasizing the effects of politics on that literature. Studies such writers as Bulgakov, Pasternak, and Solzhenitsyn. Three hours each week.

412 Prose and Poetry of the English Renaissance (3)
Prerequisite: English 102. Prose, poetry and drama of the English Renaissance, Poetry from Skelton to Jonson, prose from More to Bacon, drama from Kyd to Shirley. Three hours each week.

415 The Eighteenth Century (3)
Prerequisite: English 102. Major literary trends of the eighteenth century: neoclassical poetry and satire, the rise of the periodical and the novel, the shift to Romanticism. Includes Restoration poetry and drama. Three hours each week.

426 The American Novel (3)
Prerequisite: English 102. Survey of the development of the novel from 1798 to 1900. Representative works by Hawthorne, Cooper, Twain, James, Crane, and Dreiser, among others. Three hours each week.

430 Modern Poetry (3)
Prerequisite: English 120. Twentieth century British and American poets. Major trends in poetry from the Imagists to the present. Three hours each week.

435 Literature Since 1945 (3)
Prerequisite: English 102. Intensive reading of literature written since the close of World War II. Works will cover all genres and will include writers of various nationalities, although emphasis will be on British and American authors.

455 Chaucer (3)
Prerequisite: English 102. Study of the major works including the dream visions, *Troilus and Criseyde,* and *The Canterbury Tales.* Three hours each week.

456 Milton (3)
Prerequisite: English 102. Three hours each week.

460 World Masterpieces (3)
Prerequisite: English 102. Selections in translation from the world's best literature. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Seminar (1-3)
Prerequisite: English 102 and junior or senior standing. Intensive study of a genre, author, period, or special topics.

499 Honors Work in English (2-3)
Prerequisite: Junior or senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

ENVIRONMENTAL STUDIES

(Interdepartmental)

106 (Physics 106) Environmental Physics (3)
A study of the environment and the interrelation of its physical systems. Emphasis on energy sources, efficiency of their use and the effect on the environment. Three hours each week.

120 (Geology 120) Environmental Geology (3)
Introduction to the relationships between man and his geologic environment. Concerned with the problems that people have in using the earth and the reaction of the earth to that use. Emphasis is placed on earth processes, earth resources, and properties of rocks and surficial deposits insofar as they are important to or affect human activities. Three hours each week.

195 Introduction to Environmental Studies (3)
Interdisciplinary introduction to the scope and application of environmental studies. Emphasis will be placed on an integrated analysis of environmental principles and discussions centering on current environmental problems. Three hours each week.

228 Mathematical Modeling with Applications to Environmental Problems (3)
Prerequisites: MAT 112 or 115, CSC 111, any Statistics course. An introductory treatment of mathematical and computer modeling techniques which have application to environmental problems of an ecological, biological, social, economic, political and behavioral nature. Models to be examined will be both deterministic and stochastic and will include graph and network models, Markov processes, linear programming, Monte Carlo techniques, simulation, and game theoretic models. Group work will be especially encouraged.

305 (Economics 305) Environmental Economics (3)
Prerequisite: Economics 251, 252, or 205 and consent of instructor. Application of economic concepts to environmental problems; common property resources, public goods, and technological externalities as determinants of market failure; institutional alternatives involving economic incentives. Three hours each week.

316 (Sociology 316) Human Ecology (3)
Prerequisite: Sociology 105 and three additional hours in Sociology above the introductory level. A theory of community structure based on social evolution as shown through the referential concepts of population, organization, environment and technology. An analysis of the spatial, temporal, functional and relational configuration of human communities. Three hours each week.

FRENCH

(Department of Modern Languages)

101-102 Elementary French (3-3)
Emphasis on achievement of an active command of the language. Aural-oral practice; intensive study of the basic patterns of spoken French; reading, writing, and basic conversation. Three hours each week. Fall and Spring.

105 French for Tourists (3)
General interest course, but designed specifically for those planning to travel in a French-speaking country. Emphasis on practical communication, current vocabulary and colloquial expressions. Realia and audio-visual aids used extensively. Course may be structured to answer specific individual needs. Three hours each week. Spring.

201-202 Intermediate French (3-3)
Prerequisite: French 102 or equivalent. 201: A review of the most important and practical aspects of the grammatical structure of the language. Application of the language in composition, conversation and readings. 202: Emphasis on reading a variety of material drawn from different areas, including literature, history, politics, sociology, religion and others. Oral discussions to enable the student to apply his knowledge of the language. Brief explanations of grammatical points when necessary. Three hours each week. Fall and spring respectively.

305 Conversation and Composition (3)
Prerequisite: French 202 or equivalent. Intensive training in spoken and written French. Three hours each week. Fall.

306 Advanced Grammar (3)
Prerequisite: French 202 or equivalent. Comparative grammar and translation; required of those preparing to teach at the high school level. Three hours each week. Fall.

307 Phonetics (3)
Prerequisite: French 202 or equivalent. Various speech phenomena; practice in phonetic transcription, pronunciation, and intonation; required of those preparing to teach at the high school level. Three hours each week. Spring.

311, 312 French Civilization (3, 3)
Prerequisite: French 202. Geographical, historical, and cultural aspects of France. 311: From prehistoric times to the French Revolution, 312: From the French Revolution to the present. Three hours each week. Fall and spring respectively.

321, 322 Survey of French Literature (3, 3)
Prerequisite: French 202. Extensive readings covering the main currents of French literature; emphasis in classroom discussion on textural analysis and criticism; oral and written reports. Three hours each week. Fall and spring respectively.

336 Explication De Texte (3)
Prerequisite: French 305 or equivalent. Training in French textual criticism; oral and written reports. Three hours each week. Spring.

405 Advanced Conversation and Composition (3)
Prerequisite: French 305 or equivalent. Emphasis on oral French, essay writing and translation. Recommended for students preparing for teaching. Three hours each week. Offered on demand.

425 French Literature of the Sixteenth Century (3)
Prerequisite: French 322 or equivalent. Major writers of the Renaissance: Rabelais, Ronsard, Du Bellay, Montaigne, and others; oral and written reports. Three hours each week. Fall 1981 and alternate years.

426 French Literature of the Sixteenth Century (3)
Prerequisite: French 322 or equivalent. Major writers of the French Enlightenment: Montesquieu, Voltaire, Diderot, Rousseau, and others; oral and written reports. Three hours each week. Fall 1981 and alternate years.

430 The French Novel of the Twentieth Century (3)
Prerequisite: French 322. Readings, discussion and analysis of representative works of Proust, Gide, Malraux, Sartre, Camus, and others; oral and written reports. Three hours each week. Spring 1981 and alternate years.

435 The Nineteenth Century French Novel (3)
Prerequisite: French 322. Readings, discussion and analysis of major novels; romanticism, realism, and naturalism. Three hours each week. Fall 1980 and alternate years.

436 French Classicism (3)
Prerequisite: French 322. Readings, discussion and analysis of representative works with emphasis on dramatic literature of the 17th century: Corneille, Racine, and Moliere. Three hours each week. Fall 1980 and alternate years.

437 French Lyric Poetry from Villon to Baudelaire (3)
Prerequisite: French 322 or equivalent. Major lyric forms from the Middle Ages to the 19th century; oral and written reports. Three hours each week. Spring 1981 and alternate years.

438 Masterpieces of French Drama (3)
Prerequisite: French 322 or equivalent. The theatre in France from the Renaissance to modern times. Representative texts; oral and written reports. Three hours each week. Spring 1980 and alternate years.

439 Masterpieces of French Prose Fiction (3)
Prerequisite: French 322 or equivalent. Representative works of imaginative French prose from the 17th century to the present; oral and written reports. Three hours each week. Spring 1980 and alternate years.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman. Fall and spring.

495 Seminar in French Literature (1-3)
Prerequisite: French 322 or equivalent. Cooperative study of a selected topic under the direction of departmental faculty. Research, informal presentations, reports, discussions. Fall and spring.

499 Honors Work in French (2-3)
Prerequisite: Senior standing and eligibility for honors program. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

GEOGRAPHY

(Department of Earth Sciences)

135 Introduction to Physical Geography (4)
Maps and map projections and their uses; analysis of the spatial distribution and character of environmental elements, including climate, land forms, vegetation, and soils. Three lecture and two laboratory hours each week.

145 Introduction to Human Geography (3)
Concepts and methods of human geography with emphasis on current problems related to the spatial distribution of population. Three hours each week.

215 Economic Geography (3)
Economic activities of man, their location and relation to physical and economic conditions of the environment. Three hours each week.

330 Elementary Cartography (3)
Techniques of drafting, map projection, and map design; methods of data representation on maps. One lecture and four laboratory hours each week.

335 Introduction to Geomorphology (4)
Prerequisite: Geography 135 or Geology 105. Description and classification of land forms; analysis of the geologic, climatic and biologic factors involved in their formation; survey of geomorphic provinces of the United States. Three lecture and two laboratory hours each week.

350 Historical Geography of the United States (3)
Prerequisite: History 231 or Geography 145 or consent of the instructor. A study of the evolution of the cultural landscapes and the spatial patterns of the area that is now the United States. Examination of past geographies and of geographical change through time. Three hours each week.

380 Regional Geography of the United States (3)
A regional analysis of physical characteristics, resource base and human geography of the United States. Three hours each week.

385 Regional Geography of Europe (3)
A regional analysis of the physical and cultural features of Europe. Three hours each week.

415 Industrial Geography (3)
Prerequisite: Credit in geography or economics or consent of instructor. Factors underlying the distribution, development and character of major world industrial regions. Three hours each week.

417 Urban Geography (3)
Prerequisite: Credit in a social science or in history or consent of instructor. Analysis of the spatial distribution, growth, function and structure of urban places with emphasis on urban development and problems in the United States. Three hours each week.

430 Climatology (3)
Prerequisite: Geography 135 or consent of instructor.The spatial distribution and character of climates, their relation to other elements of the environment and to human activities. Three hours each week.

432 Biogeography (3)
Prerequisite: Credit in physical geography or in geology or consent of instructor. Principles and methodology underlying the study of the distribution of organisms in aquatic and terrestrial environments; description of modern global distribution patterns and their development by physiographic, climatic and evolutionary events of the past. Three hours each week.

455 Political Geography (3)
Prerequisite: Credit in a social science or in history or consent of instructor. Geographic factors in the development of nations and in contemporary national and international affairs. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

499 Honors Work in Geography (2-3)
Prerequisite: Eligibility for honors program and recommendation of department chairman. Individual study for honors students.

GEOLOGY

(Department of Earth Sciences)

105 Physical Geology (4)
Study of the earth and the moon; constitution of the earth's crust; weathering, erosional and depositional processes; mountain building forces and the earth's internal composition. Three lecture and two laboratory hours each week.

115 Historical Geology (4)
Geologic history of the earth; methods of interpreting the past; ancient environments; development and evolution of life. Required field trips. Three lecture and two laboratory hours each week.

120 (Environmental Studies 120) Environmental Geology (3)
Introduction to the relationships between man and his geologic environment. Concerned with the problems that people have in using the earth and the reaction of the earth to that use. Emphasis is placed on earth processes, earth resources, and properties of rocks and surficial deposits insofar as they are important to or affect human activities. Three hours each week.

205 Introduction to Oceanography (3)
An introduction to the geology, physics, chemistry and biology of the ocean; instruments and techniques of oceanography; resources of the ocean. Required field trips. Three hours each week.

215 Mineralogy (4)
Prerequisite: Geology 105; *Corequisite:* Chemistry 101, including laboratory. A study of the principles of chemical bonding and crystalline structure in naturally-occurring solids, including native elements, and sulfide, oxide, halide, carbonate, sulfate, and silicate minerals; principles governing the geological occurrence of minerals; techniques of mineral identification; geometry of crystals. Required field trips. Three lecture and two laboratory hours each week. Fall.

216 Igneous and Metamorphic Petrology (4)
Prerequisite: Geology 215. Theories of genesis of the major igneous and metamorphic rocks in the light of chemistry, mineralogy, structure and texture, field associations, and experimental data. The relationship between igneous and metamorphic processes and crust-mantle tectonic activity. Required field trips. Three lecture and two laboratory hours each week.

217 Sedimentary Petrology (4)
Prerequisite: Geology 216. Introduction to the identification, classification and origins of sediments and sedimentary rocks. Emphasis is placed on physical processes controlling sedimentation and study of modern and ancient depositional environments. Three lecture and two laboratory hours each week.

218 Advanced Mineralogy (3)
Prerequisite: Geology 215. The technique of mineral identification and analysis. Theory and application of the polarizing microscope and X-ray diffractometer. Introduction to the principles of the electron microprobe, X-ray fluorescence and atomic absorption. One lecture and four laboratory hours each week.

305 Marine Geology (4)
Prerequisite: Geology 105. Topography, sediments, structure and geologic history of the marine and estuarine environment. Required field trips. Three lecture and three laboratory hours each week.

315 Stratigraphy (4)
Prerequisite: Geology 105 and 115. An introduction to the description, organization and classification of layered rocks. Emphasis is placed on the practical use of stratigraphic principles in elucidating earth history. Three lecture and two laboratory hours each week.

316 Structural Geology (4)
Prerequisite: Geology 216 or consent of instructor. Study of deformation of the earth's crust and interpretation of the structural relationships within rocks reviewed in light of plate tectonics. Required field trips. Three lecture and two laboratory hours each week.

330 Invertebrate Paleontology (4)
Prerequisite: Geology 105 or 115. History of fossil protistans and invertebrates with emphasis on the principles of paleontology, systematics and evolution, and on the use of fossils in stratigraphic correlation. Required field trips. Three lecture and two laboratory hours each week.

405 Regional Geology of North America (3)
Prerequisite: Geology 217 or consent of instructor. A survey of the dynamic evolution of North America. The rocks, structures, natural resources, and tectonic histories of the different regions of North America are examined, along with theories of their formation and eventual unification. The Precambrian shield, the classical Appalachians, and the Cordillera are included. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

499 Honors Work in Geology (2-3)
Prerequisite: Eligibility for honors program and recommendation of department chairman. Individual study for honors students.

For 292 and 492, see explanation on p. 119.

GERMAN

(Department of Modern Languages)

101-102 Elementary German (3-3)
Emphasis on achievement of an active command of the language. Aural-oral practice, intensive study of the basic patterns of spoken German; reading, writing and basic conversation. Three hours each week. Fall and spring respectively.

201-202 Intermediate German (3-3)
Prerequiste: German 102 or equivalent. 201: A review of the most important and practical aspects of the grammatical structure of the language. Application of the language in composition, conversation and readings. 202: Emphasis on reading a variety of material drawn from different areas, including history, literature, religion, and the sciences. Composition and conversation

to enable the student to apply and expand his knowledge of the language. Individual projects relating to the student's major field of interest. Three hours each week. Fall and spring respectively.

305 Conversation and Composition (3)
Prerequisite: German 202 or consent of the instructor. Intensive training in spoken and written German. Three hours each week. Fall 1980 and alternate years.

321-322 Survey of German Literature (3-3)
Prerequisite: German 202 or consent of instructor. Extensive readings covering the main trends of German literature; emphasis in classroom discussion on textual analysis and criticism; oral and written reports. 321: Literature through Goethe. 322: Literature beginning with the *Romantiker*. Three hours each week. Fall and spring respectively, 1981-82 and alternate years.

350 Masterpieces of German Literature in English Translation (3)
Reading, discussion, and analysis of representative works by major German authors: Lessing, Goethe, Schiller, Kleist, Hebbel, Hauptmann, Mann, Hesse, and others. Knowledge of German not required. Three hours each week. Spring 1981 and alternate years.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman. Fall and spring.

HISTORY

(Department of History)

111, 112 Western Civilization (3, 3)
111: History of civilization to 1650. 112: History of civilization from 1650 to the present. Three hours each week.

231, 232 American History (3, 3)
231: United States to 1865. 232: United States from 1865 to the present. Three hours each week.

300 Evolution of Warfare (3)
Prerequisite: History 111-112 or consent of the instructor. A survey of tactics, strategy, weapons, and logistics from the ancient period to the present with emphasis upon understanding the causes of war and its impact upon man.

303 The Sea in History (3)
Prerequisite: History 111-112 or consent of the instructor. The history of mankind's interaction with the sea, focusing on its importance for resources, trade and transport, exploration, and warfare. Three hours each week.

305 The Ancient Near East (3)
Prerequisite: History 111-112 or consent of the instructor. An intensive political and cultural study of ancient Babylonian, Egyptian, and other Near Eastern civilizations. Three hours each week.

306 Ancient Greece and Rome (3)
Prerequisite: History 111-112 or consent of the instructor. A study of the civilizations of ancient Greece and Rome with special emphasis on the Greek classical period and the Pax Romana. Three hours each week.

315 Medieval Civilization (3)
Prerequisite: History 111-112 or consent of the instructor. A study of medieval institutions and culture with special emphasis on feudalism, manorialism, and the religious system of the period. Three hours each week.

316 Political History of the Middle Ages (3)
Prerequisite: History 111-112 or consent of the instructor. A study of the political development of medieval Europe from the decline of the Roman Empire in the West to the emergence of the modern period. Three hours each week.

317 Europe in the Age of the Renaissance (3)
Prerequisite: History 111-112 or consent of the instructor. Political, economic and social changes during the Renaissance, with special attention to the artistic and intellectual achievements of the age. Three hours each week.

318 Europe in the Age of the Reformation (3)
Prerequisite: History 111-112 or consent of the instructor. Causes and development of the Protestant Revolution and the Catholic Reformation with examination of the impact of these movements on the political, economic and social institutions of early modern Europe. Three hours each week.

325 Europe: From Monarchy to Revolution (3)
Prerequisite: History 111-112 or consent of the instructor. Modern Europe from the rise of absolute kings in the seventeenth century to the defeat of the Emperor Napoleon. Emphasis is placed on the wars to gain control of Europe and colonial empire, the development of capitalist finance and a global economy, and the decline of aristocracy, climaxing in the French Revolution and the age of Napoleon. Three hours each week.

326 Europe: The Age of Industry and Empire (3)
Prerequisite: History 111-112 or consent of the instructor. The origins and development of the industrial revolution in Europe; its effect on politics, population, urbanization and social class consciousness, the establishment of modern colonial empires in the nineteenth century and their place in the world economic order. Three hours each week.

327 Europe and the Struggle for World Mastery (3)
Prerequisite: History 111-112 or consent of the instructor. The Rivalry of Europe's Great Powers leading to World Wars I and II: the causes, events, and results of those global conflicts; the ensuing political revolutions in the inter-war period; anticipations of decline of the European empires: the spread of democracy and self-determination to certain areas; and European cultural and scientific development in the first half of the twentieth century. Three hours each week.

328 Europe Since 1945 (3)
Prerequisite: History 111-112 or consent of the instructor. The revival of Europe after the Nazi period and its division by the Cold War; political, social, economic developments on both sides of the "Iron Curtain," decolonialization of Europe's empires; movements for political and economic integration; continuing revolutionary currents; Europe's place in contemporary world politics. Three hours each week.

330 Social History of American Women (3)
Prerequisite: History 231-232 or consent of the instructor. An examination of American women and women's roles from the colonial period to the present.

331 European Social History From 1650 to the Present (3)
Prerequisite: History 111-112 or consent of the instructor. The lives of ordinary people in different regions of Europe, under feudal, monarchial, capitalist, and Marxist societies; the impact of climate, geography, language, religion, education, and work on individuals, families, social groups, and nations.

332 European Intellectural History from 1650 to the Present (3)
Prerequisite: History 111-112 or consent of the instructor. A survey of the main currents of European thought and their relation to European society in general from the Scientific Revolution to the present.

333 American Social History (3)
Prerequisite: History 231-232 or consent of the instructor. The impact of social change on American life from colonial times to the present. An examination of changing concepts of ethnicity and racial identification, the growth of religious movements, the effect of industrialization on family life, the impact of urbanization on crime and violence, and the influence of movies and television on mass behavior. Three hours each week.

335 Diplomatic History of the United States (3)
Prerequisite: History 231-232 or consent of the instructor. American diplomatic activities and foreign relations since 1775. Three hours each week.

336 Constitutional History of the United States (3)
Prerequisite: History 231-232 or consent of the instructor. Development of the Constitution through decisions of Supreme Court; evolution of federal authority in relation to distribution of governmental power, society and economic life. Three hours each week.

337 History of American Thought (3)
Prerequisite: History 231-232 or consent of the instructor. American thought from the colonial period to the present with emphasis on those ideas having lasting influence on American institutions. Three hours each week.

338 Colonial History of the United States (3)
Prerequisite: History 231-232 or consent of the instructor. Formation and growth of American colonies to the conclusion of the French and Indian War (1763). Three hours each week.

339 Economic History of the United States (3)
Prerequisite: History 231-232 or consent of the instructor. An historical study of American agriculture, labor, industry, transportation, and banking with emphasis on the relation of the government to the economy. Three hours each week.

351, 352 Latin American History (3, 3)
Prerequisite: History 111-112 or History 231-232 or consent of the instructor. 351: Origins and development of Latin American colonies and their struggle for independence. 352: Political, economic, and social institutions and problems of Latin American nations from attainment of independence to present. Three hours each week.

361, 362 Afro-American History (3, 3)
Prerequisite: History 231-232 or consent of instructor. 361: Historical study of the black experience in America from its African origin to 1865. Emphasis is on the historical background and development of slavery; condition and at-

titude of free blacks; and the status of race relations in America. 362: Historical study of the Afro-American experience and race relations in America from 1865 to the present. Three hours each week.

371 History of Africa (3)
Prerequisite: History 111-112 or consent of the instructor. Historical survey of African cultures with emphasis on the establishment of colonial empires, Africa under colonial rule, and modern African independence movements. Three hours each week.

372 History of Modern East Asia (3)
Prerequisite: History 111-112 or consent of the instructor. A survey of modern east Asian history from the mid-nineteenth century to the present with emphasis on the Asian response to western imperialism, institutional continuity and change, international relations, and movements toward independence and modernization. The course focuses on China, Japan and Korea with secondary attention to Southeast Asia in the post-World War II era. Three hours each week.

400 Historiography (3)
Prerequisite: History 111-112 or History 231-232 or consent of the instructor.

434 The American Revolution, 1763-1789 (3)
Prerequisite: History 231-232 or consent of the instructor. Organization of empire, colonial social structure, events preceding revolution, the War for Independence, politics of the new nation, drafting and ratification of the new Constitution. Three hours each week.

435 The Early United States Republic (3)
Prerequisite: History 231-232 or consent of the instructor. Era from inauguration of George Washington through Jacksonian democracy to advent of American Civil War. Three hours each week.

436 Twentieth Century America (3)
Prerequisite: History 231-232 or consent of the instructor. The United States from 1917 to the present. Three hours each week.

437 Robber Barons and Reformers, the U.S. 1877-1917 (3)
Prerequisite: History 231-232 or consent of the instructor. The rise of American industry and the Populist-Progressive response to Urbanization and Industrialization.

445 North Carolina, 1524 to 1835 (3)
Prerequisite: History 231-232 or consent of the instructor. Political economic and social development of North Carolina in the colonial and federal periods to the Constitution of 1835. Three hours each week.

446 North Carolina, 1835 to the Present (3)
Prerequisite: History 231-232 or consent of the instructor. Political, economic and social development of North Carolina in the nineteenth and twentieth centuries. Three hours each week.

447 The Old South (3)
Prerequisite: History 231-232 or consent of the instructor. The South from the colonial period to the Civil War with emphasis on political, economic, and social institutions distinctive to the South. Three hours each week.

448 The New South (3)
Prerequisite: History 231-232 or consent of the instructor. Aftermath of Re-

construction, rise of the New South, effects of industrialism, continuation and decline of sectionalism. Three hours each week.

449 The Civil War and Reconstruction (3)
Prerequisite: History 231-232 or consent of the instructor. The American Civil War and Reconstruction of the South through 1877. Three hours each week.

470 British Empire and Commonwealth (3)
Prerequisite: History 111-112 or consent of the instructor. A consideration of the British Empire, evolution of the Commonwealth and the emergence of additional post-World War II areas of independence.

471, 472 History of Great Britain (3, 3)
Prerequisite: History 111-112 or consent of the instructor, 471: Roman Britain to 1688. 472: 1688 to the present, Three hours each week.

473 History of Canada (3)
Prerequisite: History 111-112 or History 231-232 or consent of the instructor. A brief survey of Canada under the French; development under British control; evolution of the Dominion; relations with the United States and British Commonwealth of Nations. Three hours each week.

474 History of Ireland (3)
Prerequisite: History 111-112 or consent of the instructor. A brief survey of the history of Ireland from Neolithic times to the present, with emphasis on the Celtic culture, Christian influences, and the religio-political conflicts of the 19th and 20th centures. Three hours each week.

481, 482 History of Russia (3, 3)
Prerequisite: History 111-112 or consent of the instructor. 481: To the Bolshevik Revolution. 482: From the Bolshevik Revolution to the present. Three hours each week.

486 History of Modern France (3)
Prerequisite: History 111-112 or consent of the instructor. History of France from the French Revolution and Napoleon through the political, economic and social developments of the nineteen century to the World Wars and colonial wars of the twentieth century. Three hours each week.

488 History of Modern Germany (3)
Prerequisite: History 111-112 or consent of the instructor. Study of German nationalism. German unification, the Bismarckian Empire, Hitler's Third Reich, and the two Germanies since World War II. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Seminar (3)
Prerequisite: History 111, 112, or 231, 232 as appropriate or consent of the instructor. Intensive study of historical topics not regularly covered in other courses.

499 Honors Work in History (2-3)
Prerequisite: Senior standing. Individual study for honors students.

For 292 and 492, see explanation on p. 119.

MATHEMATICS

(Department of Mathematical Sciences)

In general, Mathematics is sequential in nature. Therefore, successful mastery of each course in sequence is necessary in order to be adequately prepared for the next course. In light of this, it is strongly recommended that students obtain a grade of at least "C" before registering for the next course in a sequence. With special permission a student can repeat a course in which a "D" grade is obtained. Sequences offered where this guideline is applicable are Mat 111-112, Mat 111-225, Mat 111-112-225, Mat 115-225, Mat 111-112-211-212-213, Mat 115-211-212-213.

100 Foundations of Algebra (0)

Designed primarily for students not prepared for Mathematics 111 who need additional manipulative skills, particularly in algebra. Three hours each week. (No credit granted toward graduation. Hours are counted in computing student loads, but not in computing quality point ratios.)

101-102 College Mathematics for the General Student (3-3)

A specific sequence designed for the general student and not intended as preparation for further mathematics courses. Cannot be substituted for Mathematics 111-112 or 115. Algebraic and trigonometric functions with emphasis on fundamentals and applications rather than on manipulative skills, and an appreciation of other mathematical concepts, such as calculus, computers, geometry, probability, and statistics. Three hours each week.

111-112 Precalculus Mathematics (3-3)

Intended as a preparatory course for further mathematics, particularly the calculus. Fundamental operations, real number and order axioms, factoring, exponents, radicals, solutions of equations and systems of equations, circular functions, trigonometric relations, triangle solutions, variation, logarithms, functions and their inverses. Three hours each week.

115 Elementary Mathematical Analysis (3)

Prerequisite: Strong high school background including at least two years of algebra, one year of geometry, and a half-year of trigonometry. Designed for students with sufficient manipulative skill for calculus but lacking theoretical experience. Real and complex number systems, elementary set theory, functions and their inverses, mathematical induction, exponential and logarithmic functions, polynominal and rational functions, circular (trigonometric) functions and inverses. Three hours each week.

141-142 Mathematics for the Elementary Teacher (3-3)

(Designed for students majoring in elementary education.) The real number system and related operations, units of measurement, graphs and data analysis, geometry, logic and sets, an introduction to calculators and computers. Three hours each week.

211-212-213 The Calculus with Analytic Geometry (4-4-4)

Prerequisite: Mathematics 112 or 115. Functions and limits: differentiation with applications including maxima and minima, related rates, differentials and approximations; theory of integration with applications, equations of curves including the conic sections; transcendental functions, polar coordinates and parametric equations; infinite sequences and series; solid analytic geometry, partial derivatives; multiple integrals. Three hours lecture and two hours laboratory each week.

225-226 Basic Calculus with Applications (3-3)
Prerequisite: Mathematics 111 or 115 for 225, Mathematics 112 or 115 and 225 for 226. Differentiation and integration of algebraic and certain transcendental functions, partial differentiation, sequences and series. Greater emphasis is placed on techniques and applications than on theory and derivations. This sequence is not intended for students who need mathematics beyond calculus. Three hours each week.

228 Mathematical Modeling with Applications to Environmental Problems (3)
Prerequisite: MAT 112 or 115, CSC 111, any Statistics course. An introductory treatment of mathematical and computer modeling techniques which have application to environmental problems of an ecological, biological, social, economic, political and behavioral nature. Models to be examined will be both deterministic and stochastic and will include graph and network models. Markov processes, linear programming, Monte Carlo techniques, simulation, and game theoretic models. Group work will be especially encouraged.

275 Introduction to Axiomatic Systems (2)
Prerequisite: Mathematics 211. An introductory treatment of logic and the axiomatic method in mathematics. Precision in the use of mathematics as a language and rigor in proofs are emphasized. Students will present and discuss appropriate material to gain experience in communicating mathematics. Two hours each week.

315 Differential Equations (3)
Prerequisite: Mathematics 213. First order equations with variable separable, exact equations. Euler's method of approximate solution, linear equations of first order, applications, linear equations of higher order with constant coefficients, solutions by repeated linear first order equations, variation of parameters, undetermined scaling variables, applications to networks and dynamical systems, introduction to series-solutions. Three hours each week.

316 Introduction to Vector Analysis (3)
Prerequisite: Mathematics 213. Addition of vectors and operations with scalars and vectors; scalar, vector and triple products; vector and scalar derivatives; line, surface and volume integrals; theorems of Gauss, Green and Stokes. Three hours each week.

325 (Computer Science 325) Numerical Algorithms (3)
Prerequisite: Computer Science 111, Mathematics 212. An introduction to the numerical algorithms fundamental to scientific computer work. Includes elementary discussion of error, polynomial interpolation, quadrature, linear systems of equations, solution of nonlinear equations, and numerical solution of ordinary differential equations. The algorithmic approach and the efficient use of the computer are emphasized. Three hours each week.

331 (Computer Science 331) Discrete Structures (3)
Prerequisite: Computer Science 111. Review of set algebra including mappings and relations. Algebraic structures including semigroups and groups. Elements of the theory of directed and undirected graphs. Boolean algebra and propositional logic. Applications of these structures to various areas of computer sciences. Three hours each week.

335 Linear Algebra and Matrices (3)
Corequisite: Mathematics 213 or consent of instructor. Systems of linear equations, vector spaces, algebra of matrices and linear transformations, determinants, applications. Three hours each week.

336 Modern Algebra (3)
Prerequisite: Mathematics 275, 335 or consent of instructor. Equivalence relations; groups, subgroups, normal subgroups, quotient groups; rings, subrings, ideals, quotient rings; rings of integers, fields of rational, real and complex numbers, polynomial rings. Three hours each week.

345 Modern College Geometry (3)
Prerequisite: Mathematics 275 or consent of instructor. Use of elementary methods in advanced study of the triangle and circle, special emphasis on solving original examples, comparison of Euclidean and non-Euclidean and projective geometries. Three hours each week.

346 Historical Development of Mathematics (3)
Corequisite: Mathematics 275 or consent of instructor. Development of mathematics from earliest systems to present century. Personalities involved, with the contributions of each. A problem-study approach to give the student some training in research. Three hours each week.

411-412 Advanced Calculus (3-3)
Prerequisite: Mathematics 275. Advanced study of convergence, continuity, differentiation, and integration in R and R^n infinite series. Three hours each week.

415 Introduction to Complex Variables (3)
Prerequisite: Mathematics 411. Complex numbers, complex plane arguments and roots, conjugate coordinates, some definitions, the Cauchy-Riemann equations. Riemann surfaces, integration of analytic functions, Taylor series, Laurent series, the residue theorem. Three hours each week.

421 Continuous Mathematical Models (3)
Prerequisite: Mathematics 315 and 335. Emphasis on the interplay between representative mathematical concepts and selected scientific models. Possible mathematical topics include partial differential equations. Fourier analysis, calculus of variations, operator theory, perturbation theory, tensor analysis, stability theory, integral equations, and potential theory. Possible areas of application include classical, fluid, continuous, celestial, and quantum mechanics, wave propagation, and diffusion. Three hours each week.

423 Discrete Mathematical Models (3)
Prerequisite: Mathematics 335. Topics chosen from linear, integer, nonlinear, and dynamic programming, classical optimization problems, game theory, network theory, introductory combinatorial mathematics, theory of graphs, and design of experiments. Three hours each week.

425 (Computer Science 425) Numerical Analysis (3)
Prerequisite: Mathematics 275, 315, Computer Science 325. A thorough treatment of solutions of equations, interpolation and approximations, numerical differentiation and integration, and numerical solution of initial value problems in ordinary differential equations. Selected algorithms will be programmed for solution on computers. Three hours each week.

428 Projects in Mathematical Modeling (3)
Prerequisite: two of Mathematics 421, 423, 465. Techniques of problem recognition and formulation, and mathematical solution and interpretation of results. Each student will construct a mathematical model under the supervision of the Applied Mathematics Committee and report on the investigation in written and oral form. Seminar format.

465 (Statistics 465) Stochastic Mathematical Models (3)
Prerequisite: Mathematics 213 and Statistics 361. The formulation, analysis, and interpretation of one or more probabilistic models in an area of scientific or social application, such as statistical mechanics, populations, learning, reliability, communications, inventory, or queues. Concurrent development of relevant portions of the theory of stochastic processes such as Markov processes, renewal processes, stationary processes, or branching processes.

591 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing, consent of the department chairman, a "B" or better average on all mathematics courses taken.

495 Seminar in Mathematics (1)
Discussion of selected topics and problems. One hour each week.

499 Honors Work in Mathematics (2-3)
Prerequisite: Eligibility for honors program. Individual study for honors students.

For 292 and 492, see explanation on p. 119.

MEDICAL TECHNOLOGY

(See Professional Programs)

MODERN LANGUAGE

(Department of Modern Languages)

305 Romance Linguistics (3)
Prerequisite: French 307 or Spanish 307 or equivalent. Origins of French and Spanish. Historical phonology, morphology and syntax; some attention to comparative and applied linguistics. Three hours each week. Spring.

MUSIC

(Department of Creative Arts)

082 Accompanying (1)
Prerequisite: Consent of instructor. Accumulative credit limited to eight semester hours. Student will be assigned an instrumentalist or vocalist with whom to work. One hourly class meeting per week, plus accompanying for lesson of soloist and adequate rehearsal time with soloist per week to prepare for the lesson of the soloist.

083 UNC-W Chamber Singers (1)
Select group drawn from the concert choir (086) by audition. Group studies the gamut of works from chamber works to secular and popular music. Two hourly rehearsals per week.

084 Jazz Ensemble (1)
Prerequisite: Permission of instructor. The study and performance of modern

jazz techniques and interpretation of popular styles, including instruction in improvisation. Members will be chosen from the Wind Ensemble (MUS 085). Two hourly rehearsals per week.

085 Wind Ensemble (1)

Open to any student who has had previous training or experience in instrumental music and who has the consent of the director. May be repeated indefinitely. Accumulative credit limited to eight semester hours. Three studio hours each week.

086 Concert Choir (1)

Prerequisite: Auditions by director. May be repeated indefinitely. Accumulative credit limited to eight semester hours. Three studio hours each week.

087 Orchestra (1)

Tuesdays 7:30-9:30 p.m. Auditions by director. Study and performance of the orchestral literature performed with the UNC-W/Community Orchestra which meets for a minimum of two hours per week and gives an average of four performances per year.

101-102 Theory I (3-3)

101: Concepts: Time, gesture, pitch. Fundamentals of notation. Functional tonality. Basis of tonal counterpoint: Two, three, and four voices. Analysis of Bach chorales, melodic structures. 102: Concepts: Continued. Application of basic concepts in analysis of 18th century music literature. Three lecture and two laboratory hours each week.

105 Rudiments of Music (3)

A general survey of the basic materials of music, including the study of musical rudiments, listening experiences, sight singing, keyboard, and other related activities. The course is designed for elementary education students, public school teacher recertification, music students who wish to prepare for Music Theory 101, and for students who wish to increase their knowledge of music. Three hours each week.

115 Survey of Music Literature (3)

Designed to increase the student's knowledge and appreciation of music; technical knowledge of music not required. Three hours each week.

116 History of Jazz (3)

A survey of the evolution of this American art form from its African roots and European influences to the present. Technical knowledge of music not required. Three hours each week.

117 American Music (3)

A survey of American composers, musicians, and music making (classical, folk and religious) from the earliest days of European settlement to the present. Technical knowledge of music helpful, but not required. Three hours each week.

118 Survey of Electronic Music (3)

A non-technical survey of electronic music, analytical study of compositions from recordings, and basic compositional methods utilizing the facilities of the UNC-W electronic music studio. Technical knowledge of music not required.

125 Percussion (1 or 2)

Prerequisite: Consent of instructor. Private instruction in percussion instru-

ments. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

131 Chamber Music Workshop (1)
Open to any student who had had previous training and experience and who has the consent of the chairman of the department. Small instrumental and vocal ensembles. Type of group will depend upon availability of personnel and faculty instructor. Two hours per week. Accumulative credit.

133 Opera Workshop (3)
Prerequisite: Music 145 or consent of instructor. The musical preparation and staging of operatic scenes through dramatic interpretation, body movement, and improvisation. Three hours each week.

134 Choral Workshop (3)
Survey of choral literature of all periods, including contemporary and popular, through performance, score study, and analytical listening. Three hours each week.

135 Trumpet (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the trumpet. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

136 French Horn (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the French horn. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

137 Trombone (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the trombone. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

138 Tuba (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the tuba. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

139 Baritone (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the baritone. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

141 Class Voice (1)
Prerequisite: Consent of instructor. Singing techniques learned through vocal exercises and study of song literature. Two hours each week. Accumulative credit.

145 Voice (1 or 2)
Prerequisite: Consent of instructor. Fundamentals of vocal techniques and vocal literature. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

151-152 Class Piano I (1-1)
Prerequisite: Consent of instructor. Recommended for all students enrolled in Music Theory 101-102 and music majors who have not passed the piano proficiency examination. Laboratory hours as required.

155 Piano (1 or 2)
Prerequisite: Consent of instructor. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

156 Harpsichord (1 or 2)
Prerequisite: Consent of instructor. Private instruction in harpsichord. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

165 Flute and Piccolo (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the flute and piccolo. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

166 Oboe (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the oboe. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

167 Clarinet (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the clarinet. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

168 Bassoon (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the bassoon. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

169 Saxophone (1 or 2)
Prerequisite: Consent of instructor. Techniques and literature of the saxophone. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

175 Organ (1 or 2)
Prerequisite: Consent of instructor. Private instruction in organ. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

181-182 Class Strings (1-1)
Prerequisite: Consent of instructor. Class instruction in violin, viola, cello or string bass. Prior experience not required. Two laboratory hours each week.

185 Violin (1 or 2)
Prerequisite: Consent of instructor. Private instruction in violin. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

186 Viola (1 or 2)
Prerequisite: Consent of instructor. Private instruction in the viola. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

187 Cello (1 or 2)
Prerequisite: Consent of instructor. Private instruction in the cello. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

188 String Bass (1 or 2)
Prerequisite: Consent of instructor. Private instruction in the string bass. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

191-192 Class Guitar (1-1)
Prerequisite: Consent of instructor. Class instruction in classical guitar. Prior experience is not required. Two laboratory hours each week.

195 Classical Guitar (1 or 2)
Prerequisite: Consent of instructor. Private instruction in classical guitar. Accumulative credit. Two hours credit with one hour lesson each week; one hour credit with a half-hour lesson each week.

201-202 Theory II (3-3)
Prerequisite: Music 101-102. 201-202: Basic musicianship skills. 201: Music of the Medieval and Renaissance periods. 202: Music of the Baroque period. Three lecture and two laboratory hours each week.

203 Composition (1-3)
Prerequisite: Consent of instructor. A beginning study of compositional techniques through direct application in original compositions. One hour seminar each week plus private instruction. Accumulative credit.

211-212-213 History of Music (2-2-2)
211: Stylistic development of music and related social and historical events of the Medieval and Renaissance eras. 212: Stylistic development of music and related social and historical events of the 17th and 18th centuries. 213: Stylistic development of music and related social and historical events of the 19th and early 20th centuries.

221 Percussion Methods (1)
Prerequisite: Consent of instructor. Prior experience not required. Two laboratory hours each week.

231 Brass Methods (1)
Prerequisite: Consent of instructor. Prior experience not required. Two laboratory hours each week.

251-252 Class Piano II (1-1)
Prerequisite: Music 152 or consent of instructor based on placement. Recommended for all music majors who have not passed the piano proficiency examination. Two laboratory hours each week.

261 Woodwind Methods (1)
Prerequisite: Consent of instructor. Prior experience not required. Two laboratory hours each week.

301-302 Theory III (3-3)
Prerequisite: Music 202. 301-302: Basic musicianship skills. 301: Music of the Romantic period. 302: Music of the 20th century. Three lecture and two laboratory hours each week.

303 Electronic Music Composition (3)
Available to students with a concentration in music and to other students who have completed at least one semester of Music 203. Techniques of electronic music composition utilizing the facilities of the UNC-W electronic music studio.

306 Orchestration (2)
Prerequisite: Music 181-182, 221, 231 and 261, or consent of instructor. Techniques of transcribing, arranging, and scoring music for various instruments and instrumental combinations. Designed for students concentrating in music. Two hours each week.

325 Music Education for Elementary Teachers (3)
Approach to the teaching of music at the elementary level, including the use of piano laboratory. Three hours each week.

326 Methods of Teaching Music in the Elementary Schools (K-6) (2)
Prerequisite: Consent of instructor; open only to currently enrolled music education majors. The purpose of this course is to study the scope and goals of the elementary music curriculum, the organization of musical content with regard to learning theories and developmental characteristics of the child, and the development of evaluative procedures based on behavioral objectives. Emphasis will be placed on some of the innovative ideas in the field, including techniques developed by Orff and Kodaly. The course will also include an evaluation of music textbooks and materials for this level.

327 Methods of Teaching Music in the Secondary Schools (7-12) (2)
Prerequisite: Open only to currently enrolled music education majors with consent of instructor. The purpose of this course is to study the scope and goals of the secondary music curriculum, the organization of musical content with regard to learning theories and behavioral characteristics of the adolescent, and the development of evaluative procedures based on behavioral objectives. Emphasis will be placed on methods for teaching music in the classroom. The course will also include an evaluation of music textbooks and materials for this level.

328 Instrumental Methods (2)
Prerequisite: Consent of instructor; Music 181, Music 221, Music 231, Music 261, Music 406. Methods of teaching instrumental classes and ensembles from elementary through senior high school. Includes repertoire, marching band techniques, history, the designing of a total program, rehearsal techniques, techniques of developing musicianship, and practical aspects of teaching instrumental music.

329 Choral Methods (2)
Prerequisite: Consent of instructor; Music 337, Music 405. Methods of teaching choral ensembles from elementary through senior high school. Includes repertoire, history, the designing of a total program, rehearsal techniques, techniques of developing musicianship and the practical aspects of teaching choral music.

337 Vocal Methods (1)
Basic procedures of teaching voice with emphasis on the junior and senior high school levels. Materials for solo voice studied and performed. Two laboratory hours each week.

403 Advanced Composition (1-3)
Prerequisite: Music 203 and consent of instructor. Music majors only. Advanced study of compositional techniques through direct application in original compositions. One hour seminar each week plus private instruction. Accumulative credit.

405 Choral Conducting (2)
Prerequisite: Music 306 or consent of instructor. Techniques of conducting choral ensembles with emphasis on periodic style and literature. Two lecture and one laboratory hour each week.

406 Instrumental Conducting (2)
Prerequisite: Music 306 or consent of instructor. Techniques of conducting applied to instrumental ensembles with emphasis on orchestral and band score reading, periodic style, literature, and rehearsal techniques. Two lecture and one laboratory hour each week.

490 Thesis (1)
A research thesis in a subject to be determined in consultation with the music faculty during the semester preceding the taking of this course.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Recital (1)
Consent of the music faculty.

499 Honors Work in Music (2-3)
Prerequisite: Eligibility for honors program and junior or senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

NURSING

(Department of Nursing)

110 Fundamentals of Nursing (6)
Corequisite: Biology 215. Introduction to the nursing profession and to the nursing process. Concept of adaptation explored with an overview of the many factors influencing health. Provision of learning experiences to utilize nursing skills to care for individuals who need help in meeting basic needs. Four lecture and six laboratory hours each week.

120 Nursing Intervention I (7)
Prerequisite: Nursing 110 and Biology 215. Focus is on planning and implementing nursing intervention for individuals presenting a variety of physical and psychological needs. The conceptual framework of stress-adaptation emphasizes the interrelationship of these needs. Four lecture and nine laboratory hours each week.

135 Nursing Intervention II (4)
Prerequisite: Nursing 120 and Biology 225. Provides a learning experience in psychiatric/mental health nursing. Emphasis is on the use of self as a therapeutic tool in nursing intervention. Nine lecture and nine laboratory hours each week.

220 Nursing Intervention III (9)
Prerequisite: Nursing 120. Focus is on planning and implementing nursing intervention for individuals presenting complex physical and psychological needs. Five lecture and twelve laboratory hours each week.

225 Nursing Intervention IV (9)
Prerequisite: Nursing 220. Focus is on planning and implementing nursing intervention to meet the needs of patients in the maternity, child, family cycle. Emphasis is on the family unit in the community setting as well as during hospitalization. Five lecture and twelve laboratory hours each week.

250 Nursing Seminar (3)
Prerequisite: Nursing 220. Provides an opportunity for an exploration of nursing in today's society with a focus on current trends and issues. Two lecture and three laboratory hours each week.

PHILOSOPHY

(Department of Philosophy and Religion)

101 Invitation to Philosophical Thinking (3)
An introduction to various philosophers and philosophical problems from historical, critical, and other perspectives.

110 Formal Logic (3)
Introduction to the principles of formal logic including the rules of deduction, the categorical syllogism, induction, and fallacies. Initiation in computer logic programs. Three hours each week.

201-202 History of Western Thought (3-3)
201: Survey of classical philosophy, Greek and Roman sources of culture. 202: Survey of development of empiricism, Italian Renaissance to 18th century. Three hours each week.

203 Nineteenth Century Philosophy (3)
Survey of major philosophical movements of the century: Romanticism as reaction to Kant; Hegel; Schopenhauer; Utilitarianism; Marx; Nietzsche. New views of science: Wallace, Darwin, Loeb, Driesch, Mach, Pearson. Relationship of 19th to 20th century thought. Three hours each week.

205 American Philosophy (3)
An introduction to American philosophical thought, beginning with the origins of Pragmatism (C.S. Peirce and W. James) and proceeding through an examination of the thought of Royce, Santayana, Dewey and Quine. Three hours each week.

211 Toward a Contemporary Philosophy of Man (3)
An effort to clarify the meanings of man as he presents himself in our contemporary world; oriented toward a theory of education and of psychology. Three hours each week.

218 Symbolic Logic (3)
Prerequisite: Philosophy and Religion 101. Fundamentals of an axiomatic logical system, including both the propositional calculus and the predicate calculus. Three hours each week.

302 Plato (3)
Prerequisite: Philosophy and Religion 101. Study of the Dialogues of Plato: Analysis of texts; contemporary interpretations. Three hours each week.

303 Aristotle (3)
Prerequisite: Philosophy and Religion 101. An examination of Aristotle's phi-

losophy through selected texts, supplemented with contemporary criticisms. Aristotle's criticisms of Plato; problems of interpretation. Three hours each week.

305 Medieval Philosophy (3)

Prerequisite: Philosophy and Religion 101. The leading thinkers and issues from the 9th century rise of dialectics to the 14th century decline into Nominalism. Special attention to the 13th century climax in the works of Bonaventure, Albertus Magnus, and Thomas Aquinas. Three hours each week.

307 Seventeenth Century Philosophy (3)

Prerequisite: Philosophy and Religion 101. Examination of the currents of thought that arose in this critical century separating medieval from modern. Readings in the works of Francis Bacon, Rene Descartes, Baruch Spinoza, Gottfried Leibniz, Thomas Hobbes and John Locke. Three hours each week.

310 (Political Science 310) Legal Philosophy and Jurisprudence (3)

Prerequisite: Junior standing and/or the consent of instructor. An introduction to the nature, concept and sources of law and the various schools of jurisprudence. Topics treated include: Natural law; historical, analytical and sociological jurisprudence; idealism, utilitarianism and legal realism; equity, justice, precedent, custom and law, and the relation of law and morality. Three hours each week.

313 Social and Political Philosophy (3)

Prerequisite: Philosophy and Religion 101. An exploration of philosophical issues and concepts central to an understanding of social and political life. e.g., function and cause, justice, liberty, equality, societal facts and laws, utopias, reason and political argument, political obligation and the public interest. Three hours each week.

315 Ethics (3)

Prerequisite: Philosophy and Religion 101. Examination of ethical theories, philosophical and religious; selection of particular issues to illustrate various styles, e.g., war, censorship, abortion, racism, bioethics. Three hours each week.

316 The Philosophy of Art (3)

Prerequisite: Philosophy and Religion 101. Investigation and exploration into both traditional and contemporary theories regarding the philosophy of art and its associated problems. Visual arts, such as painting, sculpture, film, etc. will be examined. Three hours each week.

317 Metaphysics and Epistemology (3)

Prerequisite: Philosophy and Religion 101. Selected readings from classical and contemporary sources on the nature of reality; the theories of knowledge resulting from Western man's reflection upon experience; contributions, e.g., of Plato & Aristotle, Descartes & Kant, Freud, Heidegger and Wittgenstein. Three hours each week.

320 Philosophy of Mind (3)

Prerequisite: Philosophy and Religion 101. Selected readings drawn from classical and/or contemporary sources bearing on problems of the self, such as the issue of personal identity and the concept of a person, the problem of the relation of mind and body and the question of the nature of consciousness. Three hours each week.

342 Problems in Oriental Philosophy (3)
Prerequisite: Philosophy and Religion 101. An exploration and examination of one or more of the philosophical traditions of India, China and Japan. Emphasis on achieving an understanding of the philosophical themes treated in their traditional cultural setting and an appreciation of their relevance for contemporary Western man. Three hours each week.

344 Contemporary Jewish Thinkers (3)
Prerequisite: Philosophy and Religion 101 or consent of instructor. The thought of such people as Martin Buber, Franz Rosenzweig, Maurice Friedman and other contemporary philosophers/theologians will be examined. Three hours each week.

345 Philosophy of Science (3)
Prerequisite: Philosophy and Religion 101. An interdisciplinary seminar with an emphasis upon student research in the history and practice of the philosophy of science. Collaboration of the biology, physics, and philosophy departments. Three hours each week.

401 The Philosophy of Immanuel Kant (3)
Prerequisite: Philosophy and Religion 101. An examination of the thought and influence of Kant in his three great critiques, especially the first, *The Critique of Pure Reason,* as well as in his *Groundwork of the Metaphysics of Morals.* Three hours each week.

405 Contemporary Philosophical Thought (3)
Prerequisite: Philosophy and Religion 101. Primary source study of various philosophers of the 20th century, representing the major schools or movements. Three hours each week.

415 Existentialism (3)
Prerequisite: Philosophy and Religion 101. Basic themes in the thought of the leading existentialists and phenomenologists, including Kierkegaard, Nietzsche, Husserl, Jaspers, Heidegger, Sartre, Marcel, Merleau-Ponty, and Ricoeur. Three hours each week.

417 Phenomenology (3)
Prerequisite: Philosophy and Religion 101 and 202. Study of the background ideas of Hume, Descartes, and Kant, which influenced Edmund Husserl in formulating the phenomenological method; eidetic and genetic approaches; influence and application by Heidegger, Sartre, and Merleau-Ponty; impact on contemporary psychiatry, psychology and biomedical ethics. Three hours each week.

432 Philosophy of Religion (3)
Prerequisite: Philosophy and Religion 101. Examination of the basic problems found in Western philosophy concerning religion, including efforts to prove the existence of God, the role of faith and reason, the problem of evil, immortality, religious experience, religious language, and religious pluralism. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Seminar (1-3)
Prerequisite: Credit in Philosophy and Religion and consent of department. Research in primary sources of student-selected philosophic and/or religious problems. Three hours each week.

499 Honors Work in Philosophy (2-3)
Prerequisite: Eligibility for honors program and senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

PHYSICAL EDUCATION

(Department of Health, Physical Education and Recreation)

101 Foundations of Physical Education (1)
Study of immediate and long-term effects of physical activity and establishment of individualized programs for acquiring and maintaining physical fitness. One lecture and two hours of activity each week.

102 Physical Education Activity (1)
Prerequisite: Physical Education 101 or equivalent. Student may accumulate up to 7 hours credit in Physical Education 102, but is limited to one hour per semester. Three hours each week.

103 Physical Education Activity — Program of Outdoor Pursuits (3)
Prerequisite: PED 101 or equivalent. Study of and participation in the skills and knowledge of various outdoor recreational activities in a natural setting. Minimum of 10 one-hour lecture sessions and a minimum of 11 excursion days. Travel and subsistence costs for activities borne by the student. Summer offering only. (Non-majors may repeat PED 103, in a different activity area, only once.)

105 Personal Hygiene (3)
Major health problems of the day and how they relate to the individual. Three hours each week.

215 (Biology 215) Anatomy and Physiology (4)
Prerequisite: Credit in Biology or consent of instructor. Brief introduction to major biological principles as applied to study of human anatomy and physiology. Three lecture and three laboratory hours each week.

220-221-222-223-224-225-226-227 Sports Skills (1-2)
Designed to render the physical education major skillful in and knowledgeable about specific sports activities; exposure to resource materials and teaching techniques appropriate to teach sports activity. Three to six hours each week.

220 Volleyball/Basketball (2)

221 Gymnastics/Track & Field (2)

222 Soccer/Softball/Aquatics (2)
Prerequisite: PED 102 Advanced Swimming or consent of instructor.

223 Football/Wrestling (1)

224 Badminton/Field Hockey/Tennis (2)

225 Archery/Golf/Dance (2)

226 Racquetball/Handball (1)

227 Outdoor Adventure Sports — Backpacking, Bicycling, Canoeing, and Sailing (2)

235 Principles of Health and Physical Education (3)
Introduction to the objectives, history, philosophies, trends, and professionalism of health and physical education. Three hours each week.

236 Athletic Officiating (3)
Rules, officiating techniques, and problems arising in officiating with emphasis on football, basketball, baseball, volleyball, and tennis.

304 Health and Safety Education, Grades K-9 (3)
The scope, development and procedures of health education as it relates to the student, health services and the healthful school environment. Emphasis upon the human sexuality and the teacher's responsibility for first aid and safety education in the school environment. Three hours each week.

305 Health Education (3)
The scope, development and procedures of health education as it relates to the student, health services and the healthful school enviornment. Emphasis upon the teacher's responsibility to the total school health program. Three hours each week.

306 Safety, First Aid and Athletic Injuries (3)
Fundamentals of administering first aid and treatment of athletic injuries. Three hours each week.

320 Methods of Teaching Motor Activity (3)
Emphasis on instructional methodology appropriate to teaching motor skills and sports activities, formulation of objectives, and lesson planning. Includes practicum in teaching. Three hours each week.

335 Readings in Physical Education (3)
A comprehensive review of literature in physical education and related areas. Three hours each week.

336 An Approach to Coaching (3)
The application of philosophical and psychological knowledge and principles to the administration and coaching of sports with special emphasis on research literature. Three hours each week.

349 (Biology 349) Applied Physiology of Exercise (4)
Prerequisite: Physical Education 215 or Biology 345. A study of fundamental reponses of the human body to the stress of exercise, including compensatory adjustments to long-term physical training. Three lecture and two laboratory hours each week.

355 Tests and Measurements in Physical Education (3)
Use and interpretation of elementary statistical techniques for evaluation and application of tests in physical education; review of current tests in motor ability, physical fitness, classification, sport skills, and knowledge. Three hours each week.

386 Physical Education in the Primary Grades K-3 (3)
A study of the theory, techniques and methods of developing and implementing a total program of physical education for children in grades K-3. Emphasis on the "movement approach" to learning fundamental motor skills, equipment construction, rhythms and dance, stunts and tumbling, classroom games, and other activities basic to the K-3 program. Three hours each week.

387 Physical Education in the Intermediate Grades 4-9 (3)
Methods and materials for developing and conducting a yearly program of physical education for children in grades 4-9. Emphasis on refinement of sports skills through lead-up games, relays and other games of low organization, including activities in gymnastics, dance and fitness development. Three hours each week.

415 Adapted Physical Education (3)
Prerequisite: Physical Education 215 and junior or senior standing. Problems relating to the physiological and kinesiological needs of the individual with physical limitations. Emphasis on the selection of activities that will provide opportunities for optimum development of which he or she is capable. Two lecture and two laboratory hours each week.

416 Laboratory Techniques and Research Methods in Exercise Physiology (3)
Prerequisite: Physical Education 316 and consent of instructor. An in-depth study of human physiological adaptation to exercise and training. Emphasis on circulatory hemodynamics, respiratory function, thermal regulation, and blood chemistry during work. Primarily a laboratory experience. Three hours each week.

420 Practicum in Teaching Physical Education (2)
Prerequisite: Physical Education 320. (PED 420 must be taken before Education 408 and 409). Individualized, supervised practicum in teaching. Experience complemented with weekly seminar on contemporary problems.

421-422-423-424-425-426 Methods of Coaching (2)
Emphasis on strategy, fundamentals, techniques, training and related duties. Two hours each week.
421 Baseball
422 Basketball
423 Football
424 Track and Field
425 Soccer
426 Volleyball

435 Organization and Administration of Health and Physical Education (3)
Prerequisite: Junior or senior standing. Analysis of problems involved in planning, organizing, and directing health and physical education programs. Three hours each week.

436 Intramurals (3)
Prerequisite: Junior or senior standing. The position of intramural activities in the overall program of physical education. Analysis of problems involved in the administration and organization with emphasis on the practical approach in school systems. Three hours each week.

440 Selected Topics in Physical Education (3)
Survey course for public school teachers with emphasis on updating traditional ideas and principles and introducing new ideas and problems in health and physical education. Three hours each week.

455 Advanced Tests and Measurements in Physical Education (3)
Prerequisite: Physical Education 355. Statistical techniques as applied to research in physical education; measurement and evaluation in areas of agility, balance, power, flexibility, kinesthetic perception and anthropometrics. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

499 Honors Work in Physical Education (2-3)
Prerequisite: Eligibility for honors program and senior standing. Independent study for honors students.

PHYSICS

(Department of Physics)

101-102 Elementary College Physics (4-4)
Corequisite: Mathematics 111. General physics designed for students in pre-professional programs and the biological sciences and for freshmen planning to concentrate in the physical sciences. Mechanics, heat, sound, light, electricity and magnetism and introduction to modern physics. Three lecture and two laboratory hours each week.

105 Introductory Physics (4)
Terminal course designed to cover basic principles of physics. Three lecture and two laboratory hours each week.

106 (Environmental Studies 106) Environmental Physics (3)
A study of the environment and the interrelation of its physical systems. Emphasis on energy sources, efficiency of their use and the effect on the environment. Three lecture hours each week.

107 Physics of Music (4)
Study of the scientific basis of music. Three lecture and two laboratory hours per week.

108 Meteorology (4)
Prerequisite: Mathematics 102 or 111. A study of the principles underlying atmospheric phenomena and applications to observational techniques. Three lecture and one laboratory hour each week.

201-202 General Physics (5-5)
Corequisite: Mathematics 211-212, respectively. 201: Mechanics, heat, wave motion and acoustics. 202: Electrostatics, magnetism, circuits, electrodynamics, optics, atoms, electrons, radio-activity and nuclear physics. Four lecture and two laboratory hours each week.

206-207 Problems in General Physics (2-2)
Prerequisite: Physics 101-102 and *corequisite:* Mathematics 211-212. Problems in general physics and their applications. Two problem sessions each week.

215-216 Electric Circuits (4-4)
Corequisite: Mathematics 211. Fundamental laws of electric circuits; transient and steady-state sinusoidal analysis of linear circuits by complex frequency; phasor and two-port networks. Three lecture and three laboratory hours each week.

225 Electronics (3)
Prequisite: Consent of instructor. An introduction to electronics with emphasis on instrumentation and techniques used in scientific laboratories. Two lecture and two laboratory hour each week.

260 Introduction to Astronomy (3)
Corequisite: Mathematics 102. Descriptive course in principles, theories, and techniques of astronomy. Two lecture hours each week and occasional night viewing.

305 Science for Elementary Teachers (3)
Open only to students concentrating in elementary education and to in-service teachers. Biological and physical science areas appropriate for inclusion in elementary schools. Three hours each week.

315-316 Electricity and Magnetism (3-3)
Prequisite: Physics 202. Electric and magnetic field theory; Poisson's and Laplace's equations; harmonic methods, special methods for solution of electrostatic problems, material media and boundary value problems; electromagnetic waves and radiation; electromagnetic laws of optics. Three hours each week.

321-322 Mechanics (3-3)
Prerequisite: Physics 202. Elements of Newtonian mechanics, mechanics of continuous media, La Grange's equation, rotation of a rigid body. Three hours each week.

335-336 Introduction to Modern Physics (3-3)
Prerequisite: Physics 202. Survey of important developments in atomic and nuclear physics, including relativity, atomic spectroscopy, X-rays and radioactivity. Three hours each week.

370 Photography (3)
Techniques and procedures in the use of photographic materials and equipment.

400 Advanced Laboratory (1)
Prerequisite: Consent of instructor. Designed to acquaint students with the various laboratory techniques, error analysis and reduction of data by digital computer. One hour each week.

405 History of Physics (1)
Prerequisite: Physics 202. Survey of the growth of physical beliefs and concepts from Copernicus to present. One hour each week.

406 Mathematical Physics (3)
Prerequisite: Physics 202. Designed to provide mathematics necessary for advanced undergraduate and beginning graduate study in physical sciences and to develop a strong background for students continuing into mathematics of advanced theoretical physics. Mastery of calculus and willingness to build on this mathematical foundation are assumed. Three hours each week.

415 Solid State Physics (3)
Prerequisite: Physics 336. A study of the basic properties of solids — crystal structure; mechanical, thermal and electromagnetic properties as determined by the phonon, electron, and magnon characteristics.

425 Quantum Mechanics (3)
Prerequisite: Physics 315. Basic postulates of quantum mechanics; solution of the wave equation, angular momentum, and the origin of electron spin. Three hours each week.

435 Nuclear Physics (3)
Prerequisite: Physics 335. Introduction to properties of the nucleus; natural and artificial radioactivity; nuclear reactions and particle accelerators. Three hours each week.

445 Optics (3)
Prerequisite: Physics 202. Physical and geometrical optics. Huygen's principles, electromagnetic theory of light. Three hours each week.

455 Thermo-Physics (3)
Prerequisite: Physics 202. Principles of thermodynamics and heat transfer; response of molecules to temperature effects illustrated by introduction to kinetic theory and statistical mechanics. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Physics Seminar (1-3)
Prerequisite: Consent of instructor. Discussion of selected topics in physics.

499 Honors Work in Physics (2-3)
Prerequisite: Eligibility for honors program and senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

POLITICAL SCIENCE

(Department of Political Science)

111 Introduction to Political Science (3)
The study of political science as a discipline; its nature, methods and techniques. An introductory survey of existing knowledge about politics and political systems, including theories and characteristics of political institutions within and among nation-states. Three hours each week.

205 American National Government (3)
Introduction to American national government and politics. Emphasis on structure, processes, and basic principles such as federalism, separation of powers, and judicial review. Three hours each week.

206 American State Government and Politics (3)
A survey and analysis of the organization, functions, and political processes of the American states. Three hours each week.

207 American Urban Government and Politics (3)
A study of the structure, functions, political processes, problems and trends in American city and metropolitan government and politics. Three hours each week.

211 Research Methods in Political Science (4)
An introduction to the rationale and application of both traditional and empirical methods of political analysis. Major topics include statement of problem, survey of literature, theory construction, data collection and analysis, and presentation of findings and conclusions. Three lecture and two laboratory hours each week.

300, 301 American Constitutional Law (3, 3)
Prerequisite: Political Science 205. An intensive study of the Supreme Court decisions which have contributed to the contemporary interpretation of the United States Constitution. The treatment is analytical rather than historical. 300 is concerned with decisions involving the powers of the judicial, executive and legislative branches of the national government, the relationships among these branches, and the federal system. 301 (formerly 406) is a study of decisions involving the Bill of Rights, the 14th Amendment and other provisions which protect individual rights and liberties. Three hours each week.

302 Public Opinion and Democracy (3)
Prerequisite: Political Science 111 or 205 or consent of instructor. An examination of the origin, content, and policy impact of public opinion in democratic nations, with major emphasis on the contemporary American experience. Three hours each week.

303 Elections and Voting Behavior (3)
Prerequisite: Political Science 111 or 205 or consent of instructor. An evaluation of the impact of citizen beliefs and preferences on election outcomes. The course is structured around a critical examination of the assumptions, findings and interpretations of the major voting studies since World War II. Three hours each week.

304 Introduction to Public Policy Analysis (3)
Prerequisite: Political Science 205. A study of the theories and methods of analyzing and explaining public policy and the substance of recent domestic policies in the areas of public finance and human and physical resources, including welfare, education, protection of the environment, housing, health, urban renewal and transportation. Three hours each week.

307 The American Legislature (3)
Prerequisite: Political Science 205. Functional study of legislative bodies and lawmaking. Among the topics studied will be the role of legislatures; the impact of constituencies, parties, interest groups, interpersonal relationships and other pressures on legislators; legislative structure; and the decision-making process. Three hours each week.

308 Public Administration (3)
Prerequisite: Political Science 205. Introduction to public administration in the United States. Nature and scope of public administration, public interest in the administrative process, role of administrators, formal and informal organization, public personnel and financial management. Three hours each week.

309 The American Chief Executive (3)
Prerequisite: Political Science 205. An examination of the concept of a political chief executive as a coordinate member, with legislature and courts, of a government team. Emphasis will be placed on the powers, roles, decision-making processes, and institutional development of the offices of president, governor, and mayor. Three hours each week.

310 (Philosophy 310) Legal Philosophy and Jurisprudence (3)
Prerequisite: Junior standing and/or consent of the instructor. An introduction to the nature, concept and sources of law and the various schools of jurisprudence. Topics treated include natural law; historical, analytical and sociological jurisprudence; idealism; utilitarianism; legal realism; equity, justice, precedent, custom and law; and the relation of law and morality. Three hours each week.

313 Early Political Thought (3)
An introduction to the origin and development of political theory from the 5th Century B.C. through the medieval era. Emphasis will be placed on the political ideas of Plato, Aristotle, the Epicureans, the Stoics, Cicero, Augustine, medieval philosophers, and Aquinas in order to discover the recurring themes of political inquiry. Three hours each week.

314 Modern Political Thought (3)
A critical examination of political ideas from 1500 to 1900 with special attention to those of Machiavelli, Hobbes, Locke, Rousseau, Montesquieu, Hume, Burke, Hegal, Bentham, Marx, the Mills, Spencer, T.H. Green and Nietzsche. Three hours each week.

315 Contemporary Political Ideologies (3)
A study of the concept of ideology and its significance in the modern world. Systematic analysis of the major political ideologies of the 19th and 20th centuries with emphasis on democracy, communism, fascism, nationalism, anarchism, and the New Left. Three hours each week.

316 Women and Politics (3)
Prerequisite: Political Science 111 or 205 or consent of instructor. An introduction to political perspectives on sex role differentiation. Among the topics to be discussed will be political socialization of women in ancient and modern society; women's roles in politics and government; political consequences of women's entry into the work force; and contemporary issues in the women's movement. Emphasis will be placed throughout on comparative political analysis. Three hours each week.

330 Political Systems of Africa (3)
The governments and politics of selected sub-Saharan African states. A survey from colonial days to the present with emphasis on the contemporary economic, social and political problems. Three hours each week.

335 European Political Systems (3)
Political institutions and processes of selected European countries, including Great Britain, France and Germany. Three hours each week.

336 Political Systems of the Soviet Union and Eastern Europe (3)
A comparative study of the political institutions and processes of the Soviet Union and the eastern European countries; the post-Stalin dynamics and the nature and significance of contemporary changes. Attention will be given to their foreign relations, especially with Communist China. Three hours each week.

338 Political Systems of the Middle East (3)
The governments and politics of the Middle East with emphasis on the changes that have occurred since 1945. A detailed examination of the forces that have shaped contemporary Middle Eastern politics: Islam, nationalism, modernization, and current political trends. The political institutions and processes and the domestic and foreign policies of selected countries will be studied. Three hours each week.

339 Political Systems of Asia (3)
The political systems of selected Asian countries. Special emphasis on the contemporary political, social and economic problems of India, Pakistan, Japan, China, Indonesia and other Asian countries. Three hours each week.

340 Blacks in American Politics (3)
Prerequisite: Political Science 111 or 205 or consent of instructor. A study of American political institutions and processes through the eyes of Black America. This study will analyze the power structure in the black community, dissent and protest, black participation in the political system, black leaders and politicians and their politics, and the uniqueness of black politics as compared with the wider spectrum of the political system. Three hours each week.

405 American Parties and Pressure Groups (3)
An historical and analytical treatment of the appearance and realignment of political parties during the five successive "national party systems" since the beginning of the republic. Special emphasis is given to the question of contemporary party disarray and potential realignment. Three hours each week.

406 Contemporary Southern Politics (3)
Prerequisite: Political Science 211 or consent of instructor. An examination of recent developments throughout the American South and their impact on national politics. Topics covered include southern political culture, the decline of the one-party system, and the changing roles of blacks and organized labor. Emphasis is placed upon independent research projects involving student analysis of census, election return, and public opinion survey data. Three hours each week.

407 The American Judicial Systems (3)
Prerequisite: Political Science 205. Analysis of the organization, powers and role of the judiciary. Topics studied will include the political role of American judges, factors influencing judicial policy-making, selection of judges, the role of lawyers, and socio-metric relationships within the judiciary. Three hours each week.

415 American Political Thought (3)
American political thought from the colonial period to the present. Three hours each week.

425 International Politics (3)
Nature of international relations including analyses of basic factors motivating national policies; the United Nations and other international organizations as institutions for promoting peace and welfare in a world of sovereign states. Three hours each week.

426 International Law (3)
Prerequisite: Political Science 205. Nature, development and basic concepts of international law. Examination scope, sources and sanctions of international law; its relation to municipal law; the rights and duties of states and

individuals; methods of settling international disputes, Characteristic cases used as illustrations. Three hours each week.

427 International Organizations (3)
Prerequisite: Political Science 111 or 205 or consent of instructor. A survey of the evolution, objectives and methods of various types of regional and universal organizations and their role in contemporary international relations. Special emphasis will be placed on the principal functions and agencies of the United Nations and the European Economic Community. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of the department chairman.

495 Departmental Seminar (1-3)
Prerequisite: Six hours of Political Science and consent of the department chairman. Consideration of special topics in Political Science. May be repeated for additional credit.

499 Honors Work in Political Science (2-3)
Prerequisite: Eligibility for honors program and junior or senior standing. Individual study for honors students.

For 292 and 492, see explanation on p. 119.

PORTUGUESE

(Department of Modern Languages)

101-102 Elementary Portuguese (3-3)
Emphasis on the acquisition of an active and useful command of the language. Intensive aural-oral practice with the study of grammatical structures along with the pursuit of a reading and writing ability. Discussions to introduce the students to the culture of the Portuguese-speaking areas of the world, primarily Brazil and Portugal. Three hours each week. Fall and spring respectively.

201-202 Intermediate Portuguese (3-3)
Prerequisite: Portuguese 102 or equivalent. 201: A thorough and practical review and summarization of modern Portuguese. Introduction to readings of literary and intellectual value, as well as some materials of social and political interest. Continuation of the aural-oral practice in class. 202: Emphasis on reading for the student in subjects of various types. Materials drawn from fields such as history, politics, sociology, geography, and others. Oral discussions to enable the student to apply his knowledge of the language. Brief grammatical explanations when necessary. Three hours each week. Fall and spring respectively.

PSYCHOLOGY

(Department of Psychology)

105 General Psychology (3)
Principles of psychology with emphasis on scientific methods used in studying human behavior. Three hours each week.

110 Self-Management and Self-Motivation (3)
Techniques and concepts to provide knowledge, skills, and attitudes to improve performance. Development in coping skills, including determination and modification of motivation, self-management and time-management skills, and efficient methods of learning and organizing materials and solving problems. (Not for Social Science General Degree requirement or Psychology major credit.)

145 Psychology Applied To Human Life (3)
A study of psychological principles and findings as applied to particular fields of endeavor and to various stress situations. Primary emphasis will be on the problem of human adjustment. Three hours each week.

216 Educational Psychology (3)
Prerequisite: Psychology 105 is suggested. Study of the application of psychological theories and principles in educational settings. Three hours each week.

220 Child Psychology (3)
The study of human psychological development through childhood and early adolescence. Normal development is emphasized with discussion of problem areas and other influences upon such development. Three hours each week.

221 Adolescent Psychology (3)
The study of human psychological development from late childhood through adolescence. Normal development is emphasized with discussion of problem areas and other influences upon such development. Three hours each week.

225 Introductory Statistics for the Behavioral Sciences (4)
Prerequisite: Psychology 105 and three credit hours in mathematics. Introduction to the statistical techniques most often used by behavioral scientists for either descriptive purposes or hypothesis testing. Parametric techniques are emphasized, but nonparametric tests are included. Three lecture and two laboratory hours each week.

245 Drugs and Behavior (3)
Prerequisite: Three semester hours credit in Psychology. An examination of the psychological aspects of drug use and abuse. Emphasis will be on the effects of major psychoactive drugs (including alcohol) on behavior, the psychological determinants of drug use, and treatment of drug abuse.

262 Psychology of Consciousness (3)
Prerequisite: Psychology 105. A study of the mental processes which occur during various states of human consciousness such as sleep, biofeedback and meditation. Emphasis on the research and theories of brain processes during states of consciousness. Three hours each week.

265 Human Sexual Behavior (3)
Prerequisite: Three hours in Psychology, excluding Psy 110. Examination of the psychological aspects of human sexuality with emphasis on psychosexual development and behavior. Includes discussion of causative factors and treatment of sexual disorders and deviations. Three hours each week.

310 Sensation and Perception (3)
Prerequisite: Psychology 105. A consideration of basic perceptual processes, problems of sensory processing, measurement of sensations, and simple and complex events. Such topics as perceptual cues, constancies, illusions, and person perception will be considered. Three hours each week.

318 Motivation and Emotion (3)
Prerequisite: Psychology 105. Psychological theory and research in the areas of motivation and emotion. Basic as well as more complex motive states will be examined as they arise from physiological needs and from learning and cognitive processes. Data from animal as well as human studies will be considered. Three hours each week.

322 Psychology of Exceptional Children (3)
Prerequisite: Three semester hours of psychology. A study of the characteristics and needs of impaired and gifted children. Three hours each week.

324 Psychology of Adulthood and Aging (3)
Prerequisite: 3 hours in Psychology, excluding Psy 110. A developmental approach to the portion of the lifespan from young adulthood through senescence. Emphasis on the interaction of psychological, psychosocial and physiological aspects of development. Three hours each week.

336 Industrial Psychology (3)
Prerequisite: Psychology 105. The study of psychological techniques in personnel selection and placement, merit rating, reduction of accidents, training, morale, and other factors utilized in industrial work. Three hours each week.

337 Vocational Psychology (3)
Prerequisite: Psy 105 or permission of instructor. The study of individual vocational behavior and development. Topics include the history of vocational psychology, theories of vocational development and choice, as well as stimulus, organismic, and response variables correlated with the choice process. Attention is directed toward theories and research concerning the meaning of vocational motivation and vocational adjustment, as well as the prediction of vocational success and satisfaction. Systems for defining vocational problems are included. Three hours each week.

346 Psychology of Personality (3)
Prerequisite: Psychology 105. A study of the basic facts concerning the structure, organization, and adjustmental mechanisms of personality. Three hours each week.

347 Psychopathology (3)
Prerequisite: Psychology 105. The study of behavioral pathology. Emphasis will be placed on the underlying factors of the neuroses, psychoses, and character disorders. Three hours each week.

350 Principles of Behavioral Change (3)
Prerequisite: Psychology 105. Application of the principles of behavioral control in interpersonal, educational, and clinical settings. Primary emphasis will be on behavioral modification techniques such as contingency management, desensitization, biofeedback, etc.

355 Introduction to Experimental Psychology (4)
Prerequisite: Psychology 225. Basic principles of psychological research design and evaluation, including techniques of data collection and analysis, and conduct, interpretation, and reporting of various types of psychological research. Experimental research is emphasized. Three lecture and three laboratory hours each week.

365 Social Psychology (3)
Prerequisite: Psychology 105. The study of behavior as a function of group situations. Three hours each week.

370 (Environmental Studies 370) Environmental Psychology (3)
Prerequisite: Psychology 105. The study of the effects of the physical environment on the behavior of the individual. Emphasis will be placed on man's perception of his environment, the behavioral effects of noxious factors in the environment, the psychology of environmental design, and the formation and change of attitudes about the environment. Three hours each week.

405 History and Systems of Psychology (3)
Prerequisite: Fifteen semester hours credit in psychology. History of psychology relative to current trends. Three hours each week.

410 Cognitive Psychology (3)
Prerequisite: Psychology 105. An introduction to theories and research in the area of human cognition. The following topics will be emphasized: memory, language, attention, problem-solving, and thinking. Three hours each week.

417 Psychology of Learning (3)
Prerequisite: Psychology 105, Psychology 355 is suggested. A study of the basic facts related to the learning process. The effects of reinforcement, extinction, generalization and discrimination, verbal learning and retention are considered as well as other phenomena of the learning process. Three hours each week.

420 Developmental Psychology (3)
Prerequisite: Psychology 105; Psychology 355 is suggested. A study of the principles and processes underlying the changes occurring during the normal development of humans and non-humans. Motor, social and intellectual development are emphasized. Three hours each week.

425 Psychological Tests and Measurements (4)
Prerequisite: Psychology 105 and 225 or consent of the instructor. Introduction to theory and practice of test construction, including a survey of intelligence, achievement and personality tests and their applications. Three lecture and two laboratory hours each week.

449 Psychology of Death (3)
Prerequisite: Psychology 105. A study of psychological aspects of death and dying. Man's conceptualization of and behavior toward his own demise will be studied. Special emphasis will be placed on the behavioral context surrounding terminal illness, suicide, and homicide. Psychological aspects of gerontology will also be considered. Three hours each week.

450 Introduction to Counseling (3)
Prerequisite: Psychology 346 and 347. The major historical and contemporary theories of counseling including Freudian, client-centered, behavioristic and existential will be reviewed. Examination of each theory will be accompanied by demonstration and role-play situations in which the elements of each theory are explored. Three hours each week.

451 Supervised Counseling Practice (3)
Prerequisite: Psychology 450 and consent of instructor. This course will provide for supervision of student practice in application of counseling skills and techniques in a variety of in-service situations. The student will participate in supervised counseling experiences in local social service agencies. The emphasis will be upon practice of skills combined with regular consultation with the supervisor. May be repeated once for additional credit. Three hours each week.

452 Ethical Principles in Psychology (1)
Prerequisite: Permission of the instructor. A study of the ethical considerations involved in counseling and psychotherapy, psychological testing, and the use of human subjects in research.

455 Advanced Psychological Research (3)
Prerequisite: Psychology 355 and consent of instructor. Experience in the design, conduct, and evaluation of psychological research. Advanced design and analysis techniques. Each student designs and conducts a research project and a laboratory exercise for Psychology 355. Three hours each week. Offered on demand.

456 Physiological Psychology (3)
Prerequisite: Psychology 105 and Biology 105 or consent of instructor. A study of the anatomy of the nervous system and the roles which various neural structures play in the control of behavior. Three hours each week.

457 Animal Behavior (3)
Prerequisite: Psychology 105 and Biology 105 or consent of instructor. A study of animal behavior including the traditional areas of ethology and comparative psychology. Primary emphasis is upon the similarities and differences in the behaviors of animals occupying various phylogenetic positions. Three hours each week.

465 Community Psychology (3)
Prerequisite: Psychology 105. Psychology 365 is suggested. A study of the contributions of psychology to the understanding of an individual's behavior as influenced by his community environment. A major consideration will be given to the problems associated with community mental health. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Topical Seminar (1-3)
Prerequisite: Psychology 105 and consent of instructor. Discussion of selected topics in psychology. May be repeated for additional credit.

499 Honors Work in Psychology (2-3)
Prerequisite: Eligibility for honors program and senior standing. Independent work for honors students.

For 292 and 492, see explanation on p. 119.

RECREATION

(Department of Health, Physical Education and Recreation)

265 Introduction to Recreation and Parks (3)
The scope, development, structure, purposes, functions, interrelationships of public, commercial, private and voluntary agencies engaged in rendering recreation and park services. This course is a prerequisite for all other courses in recreation. Three hours each week.

266 Program Planning for Recreation and Parks (3)
Prerequisite: Recreation 265. An introduction to programming for recreation

and parks, including the majors areas of recreation, planning principles, objectives and evaluation. Program factors, such as scheduling, personnel, facilities, equipment, etc., will be considered. Three hours each week.

267 Practicum in Recreation (3)

Prerequisite: Recreation 265. Supervised experience in recreation and/or park setting. Will include administrative, supervisory, program leadership training in a recreation setting. Recreation problems in low income areas will be examined along with leadership training in special activities and programs. Three hours each week.

268 Social Recreation Leadership (3)

Prerequisite: Recreation 265. An introduction to methods and materials used in social recreation leadership in various settings. In addition to leadership in political subdivision settings, emphasis will be placed on social recreation leadership for special populations and for private and voluntary agencies.

360 Outdoor Recreation (3)

Prerequisite: Recreation 265. The scope, organization, and program activities using resources in large parks, forests, and primitive areas. Consideration will be given to private, local, state, and federal agencies concerned with outdoor recreation in these areas. Three hours each week.

365 Administration of Recreation and Parks (3)

Prerequisite: Recreation 265. Administrative practices related to recreation and parks services, including budget preparation; legal aspects of recreation and park services; fees and charges; public relations; recruiting, selecting and training personnel; personnel practices, etc. Three hours each week.

366 Water-Related Recreation and Park Facilities and Programs (3)

Prerequisite: Recreation 265. Principles and procedures of developing recreation facilities for water-related activities, such as pools, marinas, lake facilities, etc., and water-related programs, such as scuba diving, swimming, skiing, etc. Three hours each week.

367 The Arts and Recreation (3)

Prerequisite: Recreation 265. Administrative problems involved in organizing quality cultural arts in recreation and parks departments and other leisure services agencies. Areas to be examined include financing, personnel, facilities, and equipment. Funding possibilities and relationships between the National Endowment for the Arts, State Arts Councils, Local Arts Councils, and Recreation and Parks Departments will also be studied.

368 Introduction to Therapeutic Recreation and Special Populations (3)

Prerequisite: Recreation 266. The recreation and park program for individuals and groups who are ill, handicapped, aged, or in other special groups conducted by tax-supported, voluntary, or private agencies found in the community, hospitals, penal institutions, or other special residences. Three hours each week.

369 Recreation for the Aged (3)

Prerequisite: Recreation 368. To acquaint the student with the special wants and needs of the elderly; to provide insight into the physical, mental, social, and emotional problems of the aged. To make the student aware of the important role recreation plays in the lives of the aged.

370 Adaptive Activities and Facilities for Special Populations (3)
Prerequisite: Recreation 368. To introduce the student to procedures and methods of adapting recreational facilities, programs and activities to meet the needs of the handicapped.

450 Conflict Resolution in Recreational Leadership (3)
Prerequisite: Recreation 265. An experiential approach to the study of conflict resolution in recreation leadership and management. Three hours each week.

465 Planning of Recreation and Park Areas and Facilities (3)
Prerequisite: Recreation 365. Study of planning standards and techniques will be considered. Standards for master plans will also be included. Students will develop plans for a recreation area and/or park as part of this course. Three hours each week.

468 Therapeutic Recreation: Program Planning and Implementation (3)
Prerequisite: Recreation 368. Advanced level course in programming and program implementation for individuals who are disabled or in other special population groups. Emphasis on sources of funding, community awareness and successful programming techniques. Three hours each week.

469 Research Methods and Practices in Recreation and Parks (3)
Prerequisite: Recreation 365. Research techniques employed to solve problems in the recreation and parks field. Research projects, workshops and clinics relative to specific problems on an independent and group basis will be undertaken.

470 Outdoor Recreation Management (3)
Prerequisite: Recreation 360. Advanced level course in giving in-depth exposure to management techniques necessary for the administration of major outdoor recreation areas including national park areas, national forest preserves, state parks, county park systems, municipal park systems and commercial areas such as marinas and camp sites. Emphasis on budgeting, personnel management, facility planning and design. Three hours each week.

471 Camp Leadership and Management (3)
Prerequisite: Recreation 360. Study of the segment of park recreation programs involved with current camp practices, philosophy, leadership and management. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman.

495 Seminar in Recreation (1-3)
Prerequisite: Recreation 365 or consent of instructor. Discussion of selected topics drawn from current literature. Discussions with various professionals from county, municipal, state, federal, and private recreation and park agencies.

499 Honors Work in Physical Education (2-3)
Prerequisite: Eligibility for honors program and senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

RELIGION

(Department of Philosophy and Religion)

103 Introduction to Religion (3)
Nature and varieties of religion; ways of studying religion; ways of being religious (life-styles); a comparative examination of the great Abrahamic religions (Judaism, Christianity, Islam). Three hours each week.

140 Research Tools for Historical and Textual Criticism — Hebrew (3)
Basic study of the Hebrew language with special attention to that of the Old Testament. Three hours each week.

141 Research Tools for Historical and Textual Criticism — Greek (3)
Basic study of the Greek language with special attention to that of the New Testament. Three hours each week.

231 Primitive and Classical Religions (3)
A survey of primitive religion as revealed both in archaeological research and remaining primitive customs; examination of classical faiths of Egypt, Mesopotamia and ancient Europe. Three hours each week.

232 Oriental Religions (3)
A survey of Hinduism, Buddhism, Taoism, and Confucianism; historical aspects, basic insights, texts, relevancy to contemporary man. Three hours each week.

235 Introduction to the Old Testament (3)
Historical study of the Hebrew, Canaanite, Sumerian, Babylonian, and Egyptian cultures, based upon primary literary and archaeological sources. Three hours each week.

236 Introduction to the New Testament (3)
Historical survey of the canonical Christian literature; illustration of contemporary methods of text-criticism, literary-criticism, form-criticism, and redaction-criticism; focus on results of modern scholarship in appreciating the Gospels and their function in the early Christian community. Three hours each week.

238 Early Christian Writers (3)
Survey of the basic works of the major Greek and Latin Christian Fathers from the late 1st century to the early 7th century. Special focus on the formative role of the first six "ecumenical" Councils, from Nicaea in 325 to Constantinople III in 680. Three hours each week.

242 Religion in America (3)
A survey of religious thought from colonial times to the present; representative Protestant, Catholic, and Jewish thinkers; the phenomenon of "civil religion," church involvement in social and political issues. Three hours each week.

331 The Acts of the Apostles (3)
Prerequisite: Philosophy and Religion 236 or consent of instructor. The New Testament Book of Acts; its analysis and interpretation; significance for the emerging Christian movement; contemporary evaluation of its problems and perspectives. Three hours each week.

333 The Pauline Corpus (3)
Prerequisite: Philosophy and Religion 236. Analysis and interpretation of the major New Testament Letters attributed to Paul; focus on I & II Thessalonians, Philippians, I & II Corinthians, Galatians, and Romans. Three hours each week.

335 The Johannine Literature (3)
Prerequisite: Philosophy and Religion 236. Analysis and interpretation of the five New Testament writings attributed to John; survey of 20th century work on the Fourth Gospel; especially C.H. Dodd, R. Bultmann, C.K. Barrett, and R. Brown; the three letters and their significance; relation of the Book of Revelation to the foregoing. Three hours each week.

337 Apocalyptic Literature (3)
Prerequisite: Philosophy and Religion 235, 236, or permission of instructor. A study of Jewish and Christian apocalypses, stressing general characteristics of 'apocalypse', historical and linguistic backgrounds, critical problems, and exegetical study, using Daniel, Ezechiel, and Revelation as examples. Three hours each week.

338 The Prophets of Israel (3)
Prerequisite: Philosophy and Religion 235. Primary source investigation of the Old Testament Prophets and their political, religious, socio-economic and historical background. Three hours each week.

339 Psychology of Religion (3)
A history of the interaction of modern psychology with the Western religious tradition from William James to the present; Freud and Jung, Allport and Menninger, Tillich and May, Hiltner and Pruyser, on such areas as faith and doubt, prayer and prejudice, symbol and guilt, authority and integration of personality. Three hours each week.

351 Reformation and Counter-Reformation (3)
An examination of the Reform movements in the Christian Church from the 12th to the 16th century; efforts of the Monastic and Mendicant Orders; Wycliffe, Henry of Langenstein, Gerson, Dietrich of Niem, John Major; Hus and Conciliarism; Erasmus, Luther, Zwingli, and Calvin; the Council of Trent and Ignatius Loyola. Three hours each week.

432 Philosophy of Religion (3)
Prerequisite: Philosophy and Religion 101. Examination of the basic problems found in Western philosophy concerning religion, including efforts to prove the existence of God, the role of faith and reason, the problem of evil, immortality, religious experience, religious language, and religious pluralism.

495 Seminar (1-3)
Prerequisite: Credit in Philosophy and Religion and consent of department. Research in primary source of student-selected philosophic and/or religious problems.

For 292 and 492, see explanation on p. 119.

SOCIAL WORK

(Department of Sociology and Anthropology)

235 Introduction to Social Work (3)
History, methods, and practice in professional social work in the United States. Three hours each week.

301 (Criminal Justice 301) Methods and Techniques of Social Welfare and Rehabilitation Services (3)
Prerequisite: Sociology 105. An introduction to the basis principles, methods and techniques which form the basis for social work practice with special emphasis on the professional use of self and utilization of systematic processes of problem solving in the delivery of social and rehabilitation services. The interview, social study, information gathering, group leadership, and other problem solving methods will be introduced. Three hours each week.

302 Social Work Methods II (3)
Prerequisite: Social Work 301. This course provides an opportunity to explore more fully differential concepts and principles, advocacy role, problem-solving skills, strategies and techniques in providing discrete services to individuals, groups, and communities. Emphasis is on roles, communicative patterns, and types of systems encountered by the social worker. It is also concerned with the broadening and deepening of principles underlying autonomous social work practice, decision techniques, goal formulation and mobilizing competence for action. Observation and participation in a selected human service agency is required. Three hours each week.

303 Social Welfare and Rehabilitation: Services, Policies, Issues and Programs (3)
Prerequisite: Social Work 235. A problematic approach to situations that affect policies, issues, programs and services in social work and rehabilitation services. An attempt to aid the student in developing an analytical and critical understanding as he explores the motivation and methods by which social work and rehabilitation services policies and programs are being developed by our society and other countries. Three hours each week.

306 (Criminal Justice 306) Evaluative Methods for Service Agencies (3)
Prerequisite: Sociology 301, Statistics 205 and one Computer Science course. Interviewing, participant-observation, ethnomethodology evaluative research, analysis of data and its implications, research methods with emphasis on practical application. Three hours each week.

318 Social Work and Health Care Delivery (3)
Prerequisite: Social Work 235. An examination of the rationale, issues, problems and practices related to the implementation of client-centered health care. New programs and proposals for the delivery of health services will be reviewed systematically with reference to the implications for social work practice.

336 Suicidology and Crisis Intervention (3)
Prerequisite: Social Work 235. An examination of the present range of theoretical formulations of crisis theory will be made and related to the variety of ways it is being applied in many fields of practice and in a number of commonly encountered stressful situations. Many points of view and approaches, reflecting diverse efforts at extending the knowledge and practice

base of crisis conceptualizations are studied. Emphasis is placed on observing, formulating, defining, and measuring the threats, tasks and opportunities associated with crisis behavior in individuals and families. The use of preventive techniques that are appropriate for individuals, groups and communities are explored. A common theoretical frame of reference will be developed to provide systematic and in-depth response, the range of normally developing life crisis, as well as abnormal and accidental crises. Three hours each week.

396 Community Organization and Social Practice (3)
Prerequisite: Sociology 105. The course analyzes a variety of forms of community organization practice, focusing on definition of goals, values, roles and skills required for professional practice. Community organization is viewed as a process of bringing about desirable changes in community life. Community needs and resources available to meet these needs are studied. Three hours each week.

490 Social Work Practicum (3-6)
Prerequisite: Sociology 105, Social Work 235, 301 and 303. A field experience in selected social agencies designed to permit student application and integration of cognitive and affectual learning with a formalized service system. Learning experiences and content are designed to gain and demonstrate beginning knowledge, attitudes and skills which are consistent with the concepts of social practice. The student will participate in a two hour weekly seminar.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of instructor.

495 Topical Seminar (1-3)
Prerequisite: Sociology 105, Social Work 235 and consent of instructor. A consideration of special topics not dealt with in regular courses.

For 292 and 492, see explanation on p. 119.

Sociology

(Department of Sociology and Anthropology)

105 Introduction to Sociology (3)
Science of human society emphasizing physical basis of society, culture, collective behavior, population, and social institutions. Analytical approach stressed. Three hours each week.

205 (Anthropology 205) Human Societies (3)
Prerequisite: Sociology 105. The evolution of man and societies. Societal evolution as seen as an extension of and/or parallel to biological evolution. A movement from simple to complex as analyzed from a focus upon sustenance activity as the primary organizing principle of societies. Three hours each week.

215 Modern Social Problems (3)
Social controls and the sociology of revolutionary change. Problems related to race, family, crime, delinquency, and social disorganization. Three hours each week.

225 Collective Behavior and Social Movements (3)
Prerequisite: Sociology 105. Analysis of social behavior breaking with existing patterns and expectations, such as riots, crowds, revolution, and social movements. Three hours each week.

305 Population (3)
Prerequisite: Sociology 105. A study of the changes in size, composition, distribution of population and the dynamics underlying them. Three hours each week.

306 Social Research (3)
Prerequisite: Sociology 105, Statistics 205, Computer Science 105. The core of this course will be built around an actual analysis experience utilizing interviewing, participant observation, ethnomethodology, evaluative research, analysis of data, its implication and research methods. Three hours each week.

307 Theory Construction and Non-Parametric Statistics (3)
Prerequisite: Sociology 306. The student will be introduced to the process of constructing theories relative to social relations, and to their practical applications in the conduct of actual survey research. There will also be a segment of time used to introduce those non-parametric statistics that are most often used with either nominal or ordinal data. A segment of the course will also be devoted to introducing the student to SPSS computer programming. Three hours each week.

315 Urban Sociology (3)
Prerequisite: Sociology 105. Analysis of the history and development, social organization, and problems of the city. Three hours each week.

316 Human Ecology (3)
Prerequisite: Sociology 105 and three additional hours in Sociology above the introductory level. A theory of community structure based on societal evolution as shown through the referential concepts of population, organization, enviornment and technology. An analysis of the spatial, temporal, functional and relational configuration of human communities. Three hours each week.

325 American Minority Relations (3)
Prerequisite: Sociology 105. Analysis of inter-group relationships; basis of conflict, stratification and assimilation; nature, consequence, and sources of discrimination and prejudice; minority reactions to dominance. Three hours each week.

335 The Sociology of Deviant Behavior (3)
Prerequisite: Sociology 105. The analysis of certain behavior in terms of deviations from norms; the application of sociological and psychological concepts and theory to deviant behavior, and the critical evaluation of non-sociological research and theories. Three hours each week.

345 The Family (3)
Prerequisite: Sociology 105. Origin and development of the family as a social institution from an historical and comparative approach; analysis of forms and functions of the family: socialization, mate selection, procreation. Three hours each week.

346 Sociology of Religion (3)
Prerequisite: Sociology 105. An analysis of the structure, function and process of religion, emphasizing the reciprocal relation of religion and culture and religious differentiation and institutionalization. Three hours each week.

347 Sociology of Education (3)
Prerequisite: Sociology 105. An examination of the socio-cultural factors operating at various levels of the educational process, from classroom to school system to community, in light of the changing roles of the child and education in a complex industrial society. Three hours each week.

348 Sociology of Recreation, Sports and the Arts (3)
Prerequisite: Sociology 105. This course surveys existing theory and research with respect to the concept of leisure. Specific attention is devoted to sociological analyses of trends, differentials, and time expenditures which population categories exhibit in recreational, sporting, and arts activities. Three hours each week.

349 Sociology of Law (3)
Prerequisite: Sociology 105 and junior/senior standing. An analysis of the role of law in society. Special emphasis will be given to the relationship between law and social organization and the relation of sociocultural changes to substantive and procedural aspects of law. The concept of justice will also be analyzed. Law will be viewed as a collectivistic-individualistic process and as a reflection of sciocultural values. Three hours each week.

350 Sex Roles in Society (3)
Prerequisite: Sociology 105. The differentiation of both ascribed and achieved roles in modern society based on the variable of sex of the individual, conditions which serve to maintain or to weaken the normative patterns, and consideration of some of the consequences of differentiation. The effects of sex-role socialization on political, occupational, and educational behavior, with emphasis placed on stability and change. Three hours each week.

355 Criminology (3)
Prerequisite: Sociology 105. The nature, variation and causes of crime are studied as aspects of the American culture. Three hours each week.

365 (Psychology 365) Social Psychology (3)
Prerequisite: Sociology 105 or Psychology 105. The study of behavior as a function of group situations. Three hours each week.

366 Social Change (3)
Prerequisite: Sociology 105. The study of social and cultural change in community and society with emphasis upon the rate and degree of change, direction of change, mechanism of change, and planning of change. Three hours each week.

375 Juvenile Delinquency (3)
Prerequisite: Sociology 105. The analysis and description of the problem of juvenile delinquency as it exists in a changing contemporary society. Three hours each week.

385 The Community (3)
Prerequisite: Sociology 105. A study of social organization and process in modern communities with stratification, power structure and disorganization being accentuated. Three hours each week.

386 Occupations and Social Structure (3)
Prerequisite: Sociology 105 and three additional hours in Sociology or Economics. An analysis of the place of work in society. This course examines occupational structures as the primary link between persons and the larger society. Topics to be included are the growth and development of occupational structure, occupations and technological change, occupations and organizational complexity, and other system features which influence or are influenced by the occupational structure. Three hours each week.

415 Social Classes (3)
Prerequisite: Sociology 105 and six additional hours in Sociology above the introductory level. Study of one of the basic structures in society, its nature and functions. Also provides socio-psychological discussion of American society from the perspective of the stratification system, with consideration of the life style and value system of each major social class category. Three hours each week.

445 Complex Organizations (3)
Prerequisite: Sociology 105 and six additional hours in Sociology above the introductory level. Examination of theory and research on structure and processes of large scale formal organizations in Western society; consideration of industrial-commercial governmental, religious, military, political and educational organizations. Three hours each week.

455 Social Theory (3)
Prerequisite: Sociology 105 and six additional hours in Sociology above the introductory level. A review of the significant trends of development in sociological theory with emphasis on the relationship of theory to research. Three hours each week.

466 Social Planning (3)
Prerequisite: Sociology 105 and six additional hours in Sociology above the introductory level. Examination and analysis of the theories and processes of social planning including the critical review of directed social change, social intervention, and organizational adaptation. Three hours each week.

490 Senior Project (3-6)
Prerequisite: Sociology 105, 306, 307 and senior status. A personal study of a segment of the community will be undertaken by each major. There will be an analytical paper written after actual data has been acquired preferably through a personal confrontation within an institutional setting. Three hours each week.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of instructor.

495 Topical Seminar (1-3)
Prerequisite: Sociology 105 and consent of instructor. Consideration of special topics not regularly dealt with in regular courses.

499 Honors Work in Sociology (2-3)
Prerequisite: Eligibility for honors program and senior standing. Independent work for honors students.

For 292 and 492, see explanation on p. 119.

SPANISH

(Department of Modern Languages)

101-102 Elementary Spanish (3-3)

Emphasis on achievement of an active command of the language. Aural-oral practice; intensive study of the basic patterns of spoken Spanish; reading, writing and basic conversation. Three hours each week. Fall and Spring.

105 Spanish for Tourists (3)

General interest course, but designed specifically for those planning to travel in a Spanish-speaking country. Emphasis on practical communication, current vocabulary and colloquial expressions. Realia and audiovisual aids used extensively. Course may be structured to answer specific individual needs. Three hours each week. Spring.

201-202 Intermediate Spanish (3-3)

Prerequisite: Spanish 102 or equivalent. 201: A review of the most important and practical aspects of the grammatical structure of the language. Application of the language in composition, conversation and readings. 202: Emphasis on reading a variety of material drawn from different areas, including literature, history, politics, sociology, religion, and others. Oral discussions to enable the student to apply his knowledge of the language. Brief explanation of grammatical points when necessary. Three hours each week. Fall and spring respectively.

205 Business Spanish (3)

Prerequisite: Spanish 202 or equivalent. Designed for students who need familiarization with the terminology necessary for the fields of economics, business, accounting, natural sciences and others. Business correspondence in Spanish and the currency systems of the Spanish-speaking countries are included. Three hours each week. Spring.

209 Spanish Literature in Translation (3)

Study of representative works from the literature of Spain. Readings and class discussions in English. Three hours each week. Fall 1981 and alternate years.

210 Spanish-American Literature in Translation (3)

Study of representative works from the literature of Spanish America. Readings and class discussions in English. Three hours each week. Spring 1980 and alternate years.

211 Spain Today (3)

An examination of the institutions and social fabric of contemporary Spain as they evolved from traditional roots, including units on history, politics, regional cultures, literature, music, art, customs and economic resources. Readings and class discussions in English. Three hours each week. Fall 1980 and alternate years.

212 Latin America Today (3)

An examination of the institutions and social fabric of contemporary Latin America as they evolved from traditional roots, including units on history, politics, indigenous cultures, literature, music, art, customs, and economic resources. Readings and class discussions in English. Three hours each week. Spring 1981 and alternate years.

305 Conversation and Composition (3)
Prerequisite: Spanish 202 or equivalent. Intensive training in spoken and written Spanish. Three hours each week. Fall.

306 Advanced Grammar (3)
Prerequisite: Spanish 202 or equivalent. Grammatical forms and usage; required of those who plan to teach at the high school level. Three hours each week. Fall.

307 Phonetics (3)
Prerequisite: Spanish 202 or equivalent. Various speech phenomena; practice in phonetic transcription, pronunciation, and intonation; required of those who plan to teach at the high school level. Three hours each week. Spring.

311, 312 Spanish and Spanish-American Civilization (3, 3)
Prerequisite: Spanish 202 or equivalent. Geographical, historical and cultural aspects of Spain (311) and Spanish America (312). Three hours each week. Fall and spring respectively.

321, 322 Survey of Spanish Literature (3, 3)
Prerequisite: Spanish 202 or equivalent. Extensive readings covering the main currents of Spanish literature; emphasis in classroom discussions on textual analysis and criticism; oral and written reports. Three hours each week. Fall and spring respectively.

405 Advanced Conversation and Composition (3)
Prerequisite: Spanish 202 or equivalent. Emphasis on oral Spanish, essay writing and translation. Recommended for students preparing for teaching. Three hours each week. Offered on demand.

421, 422 Spanish-American Literature (3, 3)
Prerequisite: Spanish 322 or equivalent. 421: Representative works from colonial times to the Modernista movement. 422: Representative works from the Modernista movement to the present with emphasis on the novel and poetry. Three hours each week. Fall and spring respectively, 1980-81 and alternate years.

430 Spanish Literature of the Middle Ages (3)
Prerequisite: Spanish 322 or equivalent. Literature of medieval Spain. Three hours each week. Fall 1980 and alternate years.

431 Golden Age Literature (3)
Prerequisite: Spanish 322 or equivalent. Spanish literature of the sixteenth and seventeenth centuries. Three hours each week. Spring 1981 and alternate years.

432 Modern Spanish Literature (3)
Prerequisite: Spanish 322 or equivalent. Spanish literature from the beginning of the eighteenth century to the Generation of 1898. Three hours each week. Fall 1981 and alternate years.

433 Contemporary Spanish Literature (3)
Prerequisite: Spanish 322 or equivalent. Spanish literature from the Generation of 1898 to the present. Three hours each week. Spring 1980 and alternate years.

434 Cervantes (3)
Prerequisite: Spanish 322 or equivalent. *Don Quixote* and other selected works. Three hours each week. Fall 1980 and alternate years.

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of department chairman. Fall and spring.

495 Seminar in Spanish Literature (1-3)
Prerequisite: Spanish 322 or equivalent. Cooperative study of a selected topic under the direction of departmental faculty. Research, informal presentations, reports, discussions. Fall and spring.

499 Honors Work in Spanish (2-3)
Prerequisite: Eligibility for honors program and senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

SPECIAL EDUCATION

(See Education)

SPEECH COMMUNICATION

(Department of Creative Arts)

105 Fundamentals of Speech (3)
Principles and basic skills in speaking and listening; classroom exercise and discussion. Three hours each week.

116 Oral Interpretation (3)
Analysis and practice in reading aloud before an audience a variety of literary selections. Three hours each week.

170 Intercollegiate Forensics (1)
One hour of academic credit each semester (up to eight hours total) for participation in debate and/or individual speaking events on the Intercollegiate Forensics Team. One hour each week.

210 Oral Interpretation of Children's Literature (3)
Focuses on several methods of performance of children's literature. Storytelling, solo performance and group performance will be covered. Areas of emphasis will be selection of suitable material, cutting of the material and techniques of performance. Three hours each week.

220 Interpersonal Communication (3)
This course focuses upon the communication process in face-to-face situations. It is designed to improve the everyday communication skills of the student through a greater understanding of the interpersonal process. Emphasis is placed upon the development of interviewing techniques, information acquisition and persuasive dialogues. Three hours each week.

221 Group Discussion (3)
Prerequisite: Communication 105 or consent of instructor. The study of and practice in oral group methodologies, including panel, forum and symposium speaking. Three hours each week.

230 Voice and Diction (3)
Principles and use of the voice exercises in vocal variety, articulation and pronunciation. Three hours each week.

265 Survey of Mass Communications (3)
An examination of U.S. radio, television, newspaper, magazines and film. Emphasis on their development, functions, theoretical foundations, present uses, and effects. Special project required. Three hours each week.

270 Parliamentary Procedure (1)
Principles and rules governing deliberative assemblies. One hour each week.

275 The Art of Persuasive Speech (3)
Prerequisite: Communication 105 or consent of instructor. Power of speech as a tool to control thought processes of others in both negative and positive ways. Three hours each week.

276 Debate (3)
Prerequisite: Communication 105, 170, or consent of instructor. Principles of argumentation and style in their application to formal debate; practice in conventional debate form on current national intercollegiate debate resolution. Three hours each week.

340 Communication Theory (3)
Prerequisite: Communication 105 or consent of instructor. The course explores theoretical perspectives concerning how and why people communicate. Emphasis is placed on a greater understanding of the human communication process. Three hours each week.

415 Readers Theatre (3)
Prerequisite: Communication 116. The application of oral interpretation techniques to group readings. Students will be involved in both technical and performance aspects of production. Three hours each week.

450 History of Rhetoric and Public Address (3)
A survey of the development of rhetorical principles and style as evidenced by significant historical personalities and the literary genre of public address. Three hours each week.

465 Mass Communications in Society (3)
Prerequisite: Communications 265. A seminar encompassing the development of mass communications, the obligations of the press, radio and television, the government and the right to know, censorship, invasion of privacy and other effects of mass communications. Three hours each week.

485 Senior Project (3)

491 Directed Individual Study (1-3)
Prerequisite: Junior or senior standing and consent of the department chairman.

495 Topical Seminar in Speech Communication (3)
Prerequisite: Senior standing and consent of instructor. Special topics in Communications which are not dealt with in other courses.

499 Honors Work in Communication (2-3)
Prerequisite: Senior standing. Independent study for honors students.

For 292 and 492, see explanation on p. 119.

STATISTICS

(Department of Mathematical Sciences)

205 Introduction to Statistics with Applications in the Social Sciences (3)
Prerequisites: Mathematics 101, 111, or 115. (Designed for students majoring in the social sciences.) Graphical and numerical methods for univariate data; bivariate data organization and measures of association; contingency table analysis; sampling distributions; estimation and hypothesis testing; introduction to linear regression and correlation. Three hours each week.

215 Introduction to Statistics with Applications in the Natural Sciences (3)
Prerequisites: Mathematics 111 or 115. (Designed for students majoring in the natural sciences.) Graphical and numerical descriptive methods; random variables and probability distributions; estimation and hypothesis testing (large and small samples); linear regression and correlation; one-way analysis of variance; contingency tables and goodness of fit. Three hours each week.

205-51, 215-51 Statistics Laboratory (1)
Prerequisite or *corequisite:* Statistics 205 or 215, or the equivalent. Computers are used to illustrate the descriptive and inferential methods of STT 205 and 215. Emphasis is on the use of existing statistical packages such as SAS, BMD, MINITAB, and SPSS. No computer programming knowledge is required. Two hours each week.

361 Introduction to Probability and Applied Statistics (3)
Prerequisite: Mathematics 211 or 225. Basic concepts of probability and statistics with an emphasis on applications. Elementary probability models, functions of random variables, distributions, sampling, data description, hypothesis testing, confidence intervals, tests of significance, goodness of fit, regression correlation, least square curve fitting, one-way analysis of variance. Three hours each week.

410 Applied Statistical Methods (3)
Prerequisite: Statistics 205 or 215, or the equivalent. After a review of elementary statistics, the following major areas are studied: Non-parametric methods; analysis of variance and experimental design; and regression analysis. Three hours each week.

465 (Mathematics 465) Stochastic Mathematical Models (3)
Prerequisite: Mathematics 213, Statistics 361. The formulation, analysis, and interpretation of one or more probabilistic models in an area of scientific or social application, such as statistical mechanics, populations, learning, reliability, communications, inventory, or queues. Concurrent development of relevant portions of the theory of stochastic processes such as Markov processes, renewal processes, stationary processes, or branching processes.

466 Mathematical Statistics (3)
Prerequisite: Mathematics 213 and Statistics 361. Justification of elementary statistical procedures, together with an introduction to more advanced methods, such as experimental design, analysis of variance, regression, general linear and curvilinear models, partial correlation, and multiple regression. Three hours each week.

GRADUATE STUDIES

GRADUATE STUDIES

The University of North Carolina at Wilmington offers programs of study leading to the Master of Education degree and the Master of Science degree in Marine Biology.

The Master of Education degree is granted in Elementary Education and in Educational Administration and Supervision. The program in Elementary Education offers specialties in (a) Early Childhood Education and (b) Intermediate Education. The program in Educational Administration and Supervision offers specialties in (a) Administration leading to certification for the professional role of principal, and (b) Supervision leading to certification for the professional role of curriculum-instruction specialist.

The Master of Science degree program includes three areas of specialization: Marine Biology, Biological Oceanography, and Coastal Biology. Each track is designed to provide the necessary latitude to allow the student, in consultation with a faculty committee, to develop an appropriate program of study.

These programs provide capable students an opportunity to pursue advanced study, training, and research designed to enhance their academic and professional development.

ADMISSION: MASTER'S DEGREE PROGRAMS

General Admissions Requirements

For admission to a graduate degree program at The University of North Carolina at Wilmington, the applicant must (1) hold a bachelor's degree from an accredited college or university in this country or its equivalent in a foreign institution based on a four-year program; (2) have a strong overall academic record with a B average or better in the basic courses prerequisite to the area of proposed graduate study; and (3) present satisfactory scores on the specified examination. (Test scores more than five years old at the time of application will not be considered.) In addition, students who are taking or have taken graduate work elsewhere must be in good standing at that institution to be eligible to take graduate work at UNC-Wilmington.

Applications for admission to a graduate degree program should be filed in the Graduate Office at least sixty (60) days in advance of the term in which admission is sought. If an admitted applicant does not register for the term specified in his application, his or her admission will be subject to review at a later date. In some cases,

students who are not seeking a graduate degree may be permitted to take graduate courses as a Special Graduate enrollee. Such permission to take graduate courses as a Special Graduate Student does not constitute admission to a graduate degree program.

Each student admitted to a graduate degree program must have a completed medical report form before initial registration may be effective. A student who leaves the University and does not register for at least one semester must apply for readmission to graduate studies, but need not submit another medical report form.

Graduate students are subject to the same University policies and regulations as undergraduates unless otherwise stated.

Requirements for Admission to Master of Education Programs

Applicants seeking admission to a graduate program in Education are required to submit the following:

(1) an application for graduate admission;
(2) official copies of transcripts of previous study (undergraduate and graduate);
(3) official scores on the Miller Analogies Test;
(4) three recommendations by individuals in relevant professional fields.

A score of 40 on the Miller Analogies Test and a grade average of B in the undergraduate major are minimum requirements for graduate admission. However, admissions decisions are based upon several factors, and where other indicators of success warrant, individuals who fall below the established criterion in one of the areas may be considered for admission.

In addition to the general requirements, applicants to the program in Elementary Education are required to hold, or be qualified to hold, North Carolina "A" teacher certification in Early Childhood Education or Intermediate Education. Applicants to the Educational Administration and Supervision program are required to hold, or be qualified to hold, North Carolina Class "A" elementary or secondary teacher certification.

Under exceptional circumstances, individuals who do not hold the specified teaching credential may be admitted. Such exceptions may be made in cases of otherwise qualified applicants who are engaged in relevant professional roles not requiring teacher certification and who may profit professionally from the type of advanced study offered at this institution. Examples of applicants for whom exception is appropriate may include community college administrators and teachers. In such instances, the programs may be modified appropriately. Individuals admitted under such excep-

tion are not qualified, however, upon completion of the graduate program for the institution's recommendation for North Carolina Board of Education instructional or administrative certification.

Students who seek professional improvement but do not intend to pursue a degree may register for graduate courses through procedures established for Special Graduate Students.

Requirements for Admission to Master of Science Programs

Applicants seeking admission to a graduate program in Marine Biology are required to submit the following:

(1) an application for graduate admission;
(2) official copies of transcripts of previous study (undergraduate and graduate);
(3) official scores on the Graduate Record Examinations, verbal and quantitative, and the advanced test in biology;
(4) three recommendations by individuals in professionally relevant fields.

A score of 1000 on the Graduate Record Examination (verbal and quantitative) and a grade average of B in the undergraduate major are minimum requirements for graduate admission. However, admissions decisions are based upon several factors; and where other indicators of success warrant, individuals who fall below the established criterion in one of the areas may be considered for admission.

Although interviews are most helpful to both the faculty and to the graduate applicant, they are not required.

Application forms and other admissions information may be obtained by writing to the Office of Graduate Studies, The University of North Carolina at Wilmington, P.O. Box 3725, Wilmington, North Carolina 28406.

EXPENSES

Tuition and Fees

All charges for tuition and regular fees are due and payable on or before the day of registration. Checks and money orders should be made payable to The University of North Carolina at Wilmington.

The Board of Governors of The University reserves the right to change the charges for tuition, fees and the room and board rate at any time without prior notice.

Charges Per Semester:

	In-State Students	Out-of-State Students
Tuition	$ 135.00	$ 1012.50
Fees	145.00	145.00
Total	280.00	1157.50

Other Fees:

Application Fee (to accompany application, nonrefundable)	$ 10.00
Late Registration Fee (payable after scheduled dates)	7.50
Transcript Fee (after the first)	1.00
Graduation Fee	15.00

Graduate students registering for seven or more semester hours will be charged at the full-time rate. Students scheduling fewer than seven semester hours will pay tuition and fees as follows:

Semester Hours Scheduled	In-State Students	Out-of-State Students
1	$ 57.00	$182.50
2	74.50	325.50
3	92.50	468.50
4	110.50	611.50
5	141.00	768.00
6	159.00	912.00

The privileges of students taking fewer than seven hours per semester will be restricted to class attendance and use of the library; however, by paying a Special Use Fee of $13.50 per semester, these students will be entitled to use all physical education facilities which are available to full-time students.

Residency Status for Tuition Payment

Residency status for tuition purposes is defined in the North Carolina General Statutes as follows:

> To qualify for in-state tuition a legal resident must have maintained his domicile in North Carolina for at least the 12 months immediately prior to his classification as a resident for tuition purposes. In order to be eligible for such classification, the individual must establish that his or her presence in the State during such twelve-month period was for purposes of maintaining a bona fide domicile rather than for purposes of mere temporary residence incident to enrollment in an institution of higher education; further, (1) if the parents (or court-appointed legal guardian) of the individual seeking resident classification are (is) bona fide domiciliaries of this State, this fact shall be prima facie evidence of domiciliary status of the individual applicant and (2) if such parents or guardian are not bona fide domiciliaries of the State, this fact shall be prima facie evidence of non-domiciliary status of the individual. (G.S. 116-143.1)

The initial classification of students as in-state or out-of-state residents for tuition purposes is made by the Office of the Director of Graduate Studies. Appeals for in-state status may be made to the campus appeals body, Out-of-State Tuition Appeals Committee. University regulations governing residential classification of students are set forth in detail in "A Manual to Assist the Public Higher Education Institutions of North Carolina in the Matter of Student Residence Classification for Tuition Purposes." Each enrolled student is responsible for knowing the contents of this manual. Copies of the manual are available in the undergraduate Admissions Office and in the Student Affairs Office for inspection upon request.

VA Educational Benefits

Veterans and dependents are urged to utilize their VA Educational Benefits while enrolled in the graduate programs at the University. The available benefits are determined by the amount of eligibility time a veteran or dependent has remaining and the delimiting date that is involved.

For further assistance, contact the Veterans Coordinator in Room 105 of the Alderman Building.

ACADEMIC REGULATIONS AND PROCEDURES

Registration

No minimum number of hours is required for official registration; however, specified maximum course loads must not be exceeded. Students in a graduate degree program are permitted to register for no more than 15 hours in any one semester. Course loads for students who have service appointments will be determined on an individual basis. A student enrolled in the summer may not register for, and will not receive credit for, more than six hours a term.

Course Credit

Courses Eligible for Degree Credit

For courses offered at this institution, graduate course credit may be received only for courses taken after a student has been formally admitted to graduate studies, except as described in the paragraphs below.

Final semester seniors at this institution with at least a B average in the major who need fewer than 15 hours to complete requirements for the bachelor's degree may take one or two graduate courses for the purpose of later receiving graduate credit, provided that they are not enrolled for more than a total of 15 hours. To do this the student must (1) obtain permission in advance from his or her department chairman or School dean as appropriate, and (2) present it to the Director of Graduate Studies for approval. Graduate courses taken under this provision may not be used in fulfilling baccalaureate degree requirements. Undergraduate students at other institutions who have taken graduate course work under similar arrangements may not transfer such work here.

Graduate courses taken at this institution before formal admission to graduate studies will meet course requirements for a graduate degree only if offered and approved as transfer credit, and no more than six credit hours of such courses are eligible for transfer.

Transfer of Course Credit

A maximum of six semester hours of graduate credit may be transferred from another accredited institution, or for courses taken at this institution before admission to graduate studies, in partial fulfillment of the 30 hours requirement for a master's degree. Correspondence courses will not be accepted for transfer credit. When special circumstances warrant, students may petition

the Graduate Administrative Board for transfer of more than six semester hours. Each such petition must be accompanied by a statement of endorsement from the appropriate Dean.

Grades earned on transferred work must be equivalent to B or better. Transferred credit will be accepted by the Director of Graduate Studies only upon recommendation of the Dean of the School or College in which the student is enrolled. The graduate office must have an official transcript showing the satisfactory completion of courses offered for transfer credit. The courses must have been taken within the allowed time limits for the degree. Transfer of credit does not reduce minimum residence requirements for a master's degree.

A student in graduate studies who wishes to take one or more courses elsewhere for graduate degree credit must obtain approval from the Director of Graduate Studies.

Courses Approved for Undergraduate Credit Only

Courses approved for undergraduate credit only may not become a part of the graduate degree program and do not carry either course or residence credit.

A graduate student who is required to take undergraduate courses, whether as a requisite for admission or for other reasons, or who takes such courses in the field of his or her graduate major, must make grades of at least B on all such courses in order to maintain eligibility as a graduate student.

A graduate student voluntarily electing to register for undergraduate courses may make any grade above F without jeopardy to his or her graduate standing.

Adding, Dropping, Withdrawing

Courses may be added only in the official add period, which is noted in the Calendar of Events. To add a course, the student must present to the Director of Graduate Studies a Schedule Revision Card signed by his or her advisor and the course instructor.

Every course for which a student is registered must be either completed or formally dropped; however, no course may be dropped in the last five weeks in a semester or during the last week of a summer session.

To drop a course, the student must obtain a Schedule Revision Card from his or her advisor. If the advisor approves, the student must obtain the instructor's signature and indication of whether the student is passing or failing the course. The Schedule Revision Card must then be presented to the Director of Graduate Studies for his approval.

If, at the time a student drops a course, performance in that course is judged by the instructor to be passing, a grade of WP is assigned on the student's permanent record; however, if the student is judged by the instructor to be failing, a grade of F is assigned on the student's permanent record, and the student becomes ineligible for further registration.

A student may not use a Schedule Revision Card to drop his or her only course but must officially withdraw from the University. To withdraw officially from the University, a student must come to the office of the Director of Graduate Studies and complete a permit to withdraw.

Graduate Grading

Grades for graduate students enrolled in graduate courses must be reported as one of the following:

H — clear excellence
P — entirely satisfactory
L — low passing
F — fail
S — satisfactory progress on thesis
I — work incomplete
WP — withdraw passing

A student receiving grades of L on any three courses or on 12 semester hours (whichever comes first) or any grade of F is ineligible to continue in graduate studies.

When special circumstances warrant, students declared ineligible under the preceding paragraph may be reinstated upon petition by the student to the Graduate Administrative Board. Each such petition must be accompanied by a statement of endorsement or non-endorsement from the Dean of the School or College in which the student is enrolled. Any reinstatement is provisional in that an additional grade below P will again result in the student's ineligibility.

An incomplete grade may be given if the course instructor determines that exceptional circumstances warrant extending the time for the student to complete the course work. The instructor may set the maximum allowable period for completion of the course work, but in no case will extension exceed one year. If the time allowed is to be less than one year, this information should be transmitted in writing to the student, with a copy to the Director of Graduate Studies. If within 12 months a grade change request has not been submitted by the instructor, the incomplete automatically becomes an F.

Grades of H, P, L. S, F, and WP are permanent grades and can be changed only by the Director of Graduate Studies in cases of arithmetical or clerical error or as a result of protest of grade.

Procedure for Protest of Grade

Any student who protests a course grade shall first attempt to resolve the matter with the instructor involved. Failing to reach a satisfactory resolution, the student may appeal the grade in accordance with the procedures outlined below. Such appeal must be made not later than the last day of the next regular semester.

The student shall present the appeal in writing to the Dean of the College or School within which the protested grade was awarded. By conferring with the student and the instructor, the Dean will seek resolution by mutual agreement. Failing such resolution, the Dean will transmit the written appeal to the Director of Graduate Studies. The Director will convene the Grade Appeals Committee.

The Grade Appeals Committee will consist of the Director as chairman and five members of the graduate faculty appointed by the Director. If the Committee affirms the instructor's decision, the Director will notify in writing the faculty member, the student, and the appropriate Dean. If the Committee supports the student's appeal, it shall prescribe the method by which the student will be reevaluated. If the reevaluation results in a grade change, the established Course Grade Change procedure will be followed. The grade resulting from the reevaluation is final and may not be further appealed.

Residence Credit Computation

Conversion of semester hours to residence credit is on the following basis:

1. Nine or more semester hours in a given semester earn a full semester of residence.
2. Six to eight semester hours earn one-half semester of residence.
3. Three to five semester hours earn one-fourth semester of residence.
4. Credits earned in any summer session count towards residence credit on the same basis as courses taken in regular semesters.

Master's Degree Examination

Every master's candidate must pass either a written comprehensive examination covering his or her field of study, or an oral comprehensive examination covering all course work required for the degree, or both, according to the decision of his or her department or School. Neither examination may be taken until the course work

is completed or until the final courses are in progress and must be scheduled in conformance with the deadline established by the Dean of the School or College in which the student is enrolled. If a thesis is required, a final oral defense of the thesis may be required in addition to the comprehensive examination, or as part of the oral examination.

A committee of at least three members of the graduate faculty (at least two of whom must be in the major program) evaluates the student's work for the master's degree, approves any thesis required, and administers any oral examination that may be given. If the student has a minor field of study, at least one member of the student's committee must represent the program of the minor.

A master's candidate who fails either a comprehensive written or oral examination may not take the examination a second time until at least three months have elapsed. No student may take an examination a third time without approval of the Graduate Administrative Board. A student passes an examination only on approval by at least two-thirds of the members of the examining committee. The vote of the examining committee is considered to be final.

Registration for Thesis

Every student required to write a master's thesis must register for a minimum of three hours of thesis credit. A maximum of six credit hours for the thesis may be used toward course requirements for the master's degree. During each term that a student is working on a thesis, he or she should register for as many hours as are academically appropriate, except that, if the required hours of thesis credit have been taken, the student may register for zero credit hours so long as this is the only course for which he or she is registered.

Any student engaged in thesis research and/or writing that involves the use of University faculty or facilities must be registered during the semester or summer session in which he or she is using faculty time or facilities, whether the student is in residence or not. This registration may be for zero credit hours if the student had registered previously for the required number of semester hours of thesis credit. Provided that no use of University faculty and/or facilities is required, a student need not be registered in the semester in which the degree is to be awarded.

Foreign Language Requirement

Foreign language requirements differ from one graduate degree program to another. At an early stage, a graduate student should

consult his or her graduate program advisor concerning what foreign language, if any, will be required. The requirement for a student in a given program must be one of the options approved for that program by the Graduate Administrative Board.

Each department or curriculum shall determine when a graduate student must fulfill a foreign language requirement, provided that such requirement be satisfied before a student is admitted to candidacy. At the time a student requests admission to candidacy, his or her Dean will be asked to certify on the application for candidacy that such requirement has been met.

Application for Admission to Candidacy and for the Degree

A student in a master's degree program applies for admission to candidacy at the time of application for the degree. To be eligible for graduation each student must apply for a specific graduation on or before the deadline shown in the Calendar of Events.

If a student has already applied for candidacy and for the degree but fails to meet a deadline for a particular graduation, he or she must reapply for the degree, specifying a new graduation date.

Degree Time Limits

A graduate student has five calendar years from the date of first registration in the graduate program to complete the master's degree. Courses transferred from other graduate schools for application toward degree requirements must have been taken within the specified time limits for that degree.

When extenuating circumstances warrant, an extension of the degree time limit may be granted a student upon his or her petition to the Director of Graduate Studies. At the same time such a petition is filed, the student should request the Dean of the School or College in which he or she is enrolled to forward to the Graduate Administrative Board a recommendation regarding the extension.

MASTER OF EDUCATION

The University of North Carolina at Wilmington offers two master's degree programs in professional education: (1) a Master of Education program in Elementary Education with tracks in Early Childhood Education (K-3) and Intermediate Education (4-9); and (2) a Master of Education program in Educational Administration and Supervision with tracks in Educational Administration and in Curriculum Supervision. Program requirements are outlined below.

Elementary Education

The program leading to the Master of Education in Elementary Education provides advanced professional training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification in Early Childhood Education (K-3) or Intermediate Education (4-9). Within the program, specialties are offered in Early Childhood Education or Intermediate Education. The thirty-semester-hour program is comprised of fifteen semester hours of conceptual and technical studies common to both specialties, nine to twelve semester hours in the area of specialization, and three to six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core" treating essential conceptual foundations and general technologies and "tracks" in which the specific information needs are addressed.

I. Elementary Core
   Education 500, *Human Development and Learning* (3)
   Education 501, *Cognition and Language Acquisition* (3)
   Education 502, *The School as a Social System* (3)
   Education 520, *Instructional Development* (3)
   *Education 530, *Curriculum Development* (3)

II. Early Childhood Education Track
   Education 531, *Study of Teaching in Early Childhood Education* (3)
   Education 535, *Diagnosis and Teaching in Reading/Language Arts* (3)
   Education 542, *Diagnosis and Teaching in Mathematics* (3)
   Electives, Six (6) semester hours.

*Field-based activities will be required in this course. Such activities will be cooperatively designed and supervised by University and field personnel.

III. Intermediate Education Track
A. Common Requirements
Education 536, *Teaching Reading in the Content Areas* (3)
Elective, three (3) semester hours
B. Concentration (Select "1" or "2" below)
1. Language Arts Concentration (Required of teachers with Class "A" Language Arts Concentration)
Education 537, *Linguistics for Teachers* (3)
Six (6) semester hours elected from the following:
Education 538, *The Teaching of Writing* (3)
Education 540, *Adolescent Literature* (3)
Education 541, *Speech Activities in the Classroom* (3)
2. Interdisciplinary Concentration
Select three courses among the following in elementary instruction representing at least two content areas (Language Arts, Social Studies, Mathematics, Science)
Education 535, *Diagnosis and Teaching in Reading/ Language Arts* (3)
Education 537, *Linguistics for Teachers* (3)
Education 538, *The Teaching of Writing* (3)
Education 540, *Adolescent Literature* (3)
Education 541, *Speech Activities in the Classroom* (3)
Education 542, *Diagnosis and Teaching in Mathematics* (3)
Education 543, *Teaching Social Studies in the Elementary School* (3)
Education 544, *Teaching Science in the Elementary School* (3)

No language requirement is stipulated. Competence in appropriate inquiry procedures will be developed through the required course, *Instructional Development*. A comprehensive examination will be required.

Educational Administration and Supervision

The Master of Education program in Educational Administration and Supervision provides educational leadership training for individuals holding, or qualified to hold, North Carolina Class "A" teacher certification. Within the program, specialties are offered leading to certification for the professional roles of principal or curriculum-instruction specialist. The thirty-semester-hour program is comprised of fifteen semester hours of conceptual and technical studies common to both specialties, nine semester hours in the area of specialization, and six semester hours of electives.

Based upon the view of the professional as a decision-maker, the program addresses the needs for conceptual and procedural bases for decision-making and for specific alternatives within the student's anticipated area of professional practice. Accordingly, the program is comprised of a "professional core" treating essential conceptual foundations and general technologies and "tracks" in which the specific information needs are addressed.

I. Administration-Supervision Core
   Education 502, *School as a Social System* (3)
   Education 510, *Organization and Control of American Education* (3)
   Education 511, *Organizational Behavior* (3)
   Education 521, *Decision-Making* (3)
   Education 523, *Research in Education* (3)

II. Administrative Track
   Education 512, *Legal Structures in Education* (3)
   Education 560, *Personnel Administration* (3)
   *Education 561, *Leadership Applications* (3)
   Electives, Six (6) semester hours

III. Supervision Track
   Education 500, *Human Development and Learning* (3)
   *Education 520, *Instructional Development* (3)
   *Education 530, *Curriculum Development* (3)
   Electives, Six (6) semester hours

*Field-based activities will be required in these courses. Such activities will be cooperatively designed and supervised by University and field personnel.

No language requirement is stipulated. Competency in appropriate inquiry procedures will be developed through the required courses, *Decision-Making* and *Research in Education*. A comprehensive examination will be required.

GRADUATE PROGRAM IN EDUCATION

Course Descriptions

EDN 500 Human Development and Learning (3)
Designed to provide foundations for decision-making in teaching and education, this course will focus on patterns of physical and social development and on types of learning. Activities will include analysis, discussion, and application.

EDN 501 Cognition and Language Acquisition (3)
Planned to provide foundations for decision-making in teaching and education, this course will include a study of theories of cognitive development and models of language development with emphasis on the concurrent development of cognition and language. Activities will include analysis, discussion, and application.

EDN 502 The School as a Social System (3)
Designed to develop competency in the analysis of social effects upon behavior within the school, this course will include an examination of role, value, power, and control systems within schools and how these systems relate to the changing functions of the family and work place. This information will be related to current issues in the educational system, such as compulsory attendance, level of control, biculturalism, etc.

EDN 510 Organization and Control of American Education (3)
The course will include a study of the roles of agencies involved in the governance of education, sources of finance and supportive services. Activities will include lectures, simulated exercises and an opportunity to participate in field activities.

EDN 511 Organizational Behavior (3)
Designed to develop competency in the analysis of behavior in educational organizations, this course will include an examination of organizational theory with particular attention to the utility of social systems theory as a basis for effective educational leadership. A variety of activities including simulation and case studies will be used to demonstrate application in school settings.

EDN 512 Legal Structures in Education (3)
Prerequisite: EDN 510 or permission from department. The two purposes of this course are (1) to develop knowledge of constitutional, statutory, and case law related to education and knowledge of state and local governmental structures and (2) to develop skills and abilities in analysis and design of educational practices for consistency with established legal principles. The course content will include a study of the U.S. and N.C. constitutions, selected state and federal court cases, the N.C. system of educators, federal statutes related to education, and the structures of local governments. Activities will include lecture, discussion, library research, and group and individual analysis of existing school system practices and design of legally-consistent practices.

EDN 520 Instructional Development (3)
Intended to provide students with the knowledge and skill required for designing and evaluating instructional plans, units, and educational programs. This course will include concern for such topics as types of learning, learning hierarchies, task analysis, educational goal and ob-

jective formulation, assessing learner entry skills, and evaluation. The course will include a variety of activities with a strong emphasis on group problem solving and individual projects. Students will undertake projects relevant to their in-school experiences.

EDN 521 Decision-Making (3)

Prerequisite: EDN 510 or permission from department. This course is designed to develop knowledge, skills, and abilities in identification and analysis of decision situations and decision alternatives, in procedures for choice, and in design and analysis of educational information systems. Contents will include study of alternative decision-making models, procedures for choice, evaluation of educational programs, and educational information systems. The activities will include lecture, discussion, and simulated and real applications to decision situations in school systems.

EDN 522 Educational Media (3)

Intended to provide students with the theory and practical skills necessary for selecting, producing, and evaluating mediated materials in education. Students will learn to produce a variety of audio-visual materials including graphics, transparencies, slides, video-tapes. In addition, there will be considerable emphasis on photography including developing and printing. Instruction in operating and troubleshooting equipment will also be treated. The primary goal of this course is to develop confidence and competency in the media area. The course will include lectures and a workshop format. Students will produce a variety of mediated projects during the course.

EDN 523 Research in Education (3)

This course is designed to develop research competencies required for interpretation and critique of research report and for design and conduct of research for educational decision-making. Contents will include measurement, problem identification and analysis, research design, selected statistical analysis procedures, data interpretation and reporting and research critique. Activities will include lecture, discussion, research critique, simulated and actual proposal development, simulated report development, and computer analysis of actual data.

EDN 530 Curriculum Development (3)

Prerequisites: EDN 500 and EDN 501. Building on the knowledge of the characteristics of the child and the identification of concepts and skills inherent in all content areas, this course focuses on the development of elementary school curriculum. A variety of curriculum models and approaches within models will be studied as a basis for the design of exemplary programs that might be implemented in the public schools.

EDN 531 Study of Teaching in Early Childhood Education (3)

Prerequisites: EDN 500, EDN 501, EDN 502, EDN 520, or department approval. Designed to improve teaching performance and to develop competencies in the critical analysis of teaching in the early grades, this course will include an in-depth study of teaching in the early grades by observation and participation using different interaction analysis formats for studying and analyzing teaching.

EDN 532 Comparative Studies in Early Childhood Education (3)

Prerequisites: EDN 502 or approval of department. Designed to provide information for comparing and contrasting preschools from an international perspective, this course will include an in-depth cross-cultural survey of early childhood education in selected countries. The history

of philosophical thoughts, the political and socio-economic changes and research efforts from these selected countries of interest to American early childhood educators will be studied and discussed.

EDN 533 Early Childhood Education in Focus (3)

Prerequisites: EDN 500, EDN 501, EDN 502, or approval of department. Designed to develop the ability to look at current trends and issues in early childhood education. Objectively, this course will include critical analysis of present exemplary programs, practices, resources, and legislation related to early childhood education. The student will be involved in identifying unresolved issues in early childhood education and writing position papers about these issues.

EDN 535 Diagnosis and Teaching of Reading/Language Arts (3)

Prerequisites: EDN 501 and EDN 530. Designed for the elementary teacher, this course focuses on building the skills and understandings needed to become a diagnostic teacher. In addition to the review of skills sequences in reading/language arts, the student will study a variety of diagnostic materials and techniques and will strengthen knowledge about and skills in the selection of appropriate materials, techniques and methods in teaching. Development of informal tests as well as experiences in actual diagnosis will be required.

EDN 536 Teaching Reading in the Content Area (3)

Prerequisite: EDN 501. Designed for the middle grades teacher of math, science, social studies, and English, this course will identify those skills of reading needed in all content areas as well as those specific to each content area. Emphasis will be placed on the study of strategies useful in teaching reading in the content area classroom. Besides the study of appropriate commercial materials, students will be required to develop their own materials useful for teaching reading in particular content area.

EDN 537 Linguistics for Teachers (3)

A study of current American English and of the principles of scientific analysis of spoken and written language; emphasis on understanding that nature and structure of the language that students bring into the classroom.

EDN 538 The Teaching of Writing (3)

Intensive review of principles of grammar, rhetoric and usage (approximately ½ of course), followed by projects using and evaluating actual samples (both expository and creative) from school-age writers; attention also to methods of instruction and to the range, usefulness and availability of classroom materials.

EDN 539 Children's Literature (3)

Prerequisites: EDN 500, EDN 501, EDN 502, EDN 520, or approval from department. Designed to develop skills and understanding which would improve teachers' competencies in formulating sound literature programs, this course will include an indepth study of the functions of children's literature and the different criteria for evaluation of the various types of literature suitable for children at various developmental levels. Areas of influence that are producing change such as paperbacks, minorities in children's books, sexism and censorship will be discussed.

EDN 540 Adolescent Literature (3)

A comprehensive study of literature appropriate for the middle grades,

its value in the school curriculum and its importance in fulfilling intellectual, emotional, and cultural needs of young people. Evaluation and bibliography are emphasized; classroom techniques and the use of related material are covered. Projects related to instructional preparation and student activities are required.

EDN 541 Speech Activities in the Classroom (3)

Designed to develop teacher competency in teaching communications skills. Topics will include communication processes, sequence and scope of communications curriculum, bibliography, and methodology in a range of communications skills. Activities will include lectures, individual and group presentations, and an individual project.

EDN 542 Diagnosis and Teaching in Mathematics (3)

Prerequisites: EDN 500 and EDN 530. Designed for the elementary teacher, this course focuses on building the skills and understanding needed to become a diagnostic teacher. In addition to the review of skills sequences in mathematics, the student will study a variety of diagnostic materials and techniques and will strengthen knowledge about and skills in the selection of appropriate materials, techniques, and methods used in teaching. Development of informal tests as well as experiences in actual diagnosis will be required.

EDN 543 The Teaching of Social Studies (3)

Prerequisite: EDN 500, EDN 501, EDN 534. Special emphasis is given to the various techniques and methods to be used in the teaching of social studies. Teaching strategies including simulation, inquiry and value clarification will be explored through research, observation, demonstration, and, when applicable, field trips. Each student will prepare a major unit of study which will require both individual and group participation.

EDN 544 Teaching of Science in the Elementary School (3)

To assure that science at the elementary school level is taught from a theoretical and conceptual base, content will include studying theories and concepts related to science taught at the elementary school level. Activities will include development of successful methods of teaching through the use of individual and group projects. Opportunities will be provided to field test methods proposed. Materials needed for a successful science program and sources from which these materials may be secured will be discussed.

EDN 545 Black Literature and Resources for Teachers (3)

A survey of Black literature, including the examination of material published for classroom use in the public schools and the authors who have made contributions to this field.

EDN 550 Nature and Needs of Exceptional Children (3)

This course is designed to provide a comprehensive survey of the major categories of exceptional children. Emphasis will be on characteristics etiology, educational procedures, and psycho-social implications. Activities will include lecture, discussion, and practical applications of concepts and strategies. This course is only open to elementary curriculum and administration/supervision students.

EDN 560 Personnel Administration (3)

Prerequisites: EDN 502, EDN 510, EDN 511, EDN 521, or permission from department. This course is designed to develop knowledge, skills,

and abilities in specification and analysis of roles and role performance, and in selection, supervision, and utilization of personnel resources. The contents will include educational roles, criteria for role performance, personnel selection criteria and procedures, personnel policies and practices, and labor relations. Activities will include lecture, discussion, analysis and design of simulated and actual personnel procedures, and a variety of simulated personnel related tasks.

EDN 561 Leadership Applications (3)
Prerequisites: EDN 502, EDN 510, EDN 511, EDN 521, or permission from department. This course is designed to develop skills and abilities in analysis, initiation, establishment, and maintenance of specific educational procedures. The contents will include specific procedures for scheduling, office management, pupil control, co-curricular program design and management, curricular program design and management, communications, information systems, and budgeting. Activities will include lecture, discussion, visitation, simulated and actual applications, and selected practicum experiences.

EDN 562 Automation in Administrative and Instructional Practices (3)
Prerequisites: EDN 510 or permission from department. The purpose of this course is to develop knowledge, skills, and abilities required for decision-making about automation of procedures and for design and implementation of automated procedures. The content will include a study of alternative procedures for automation, including computer applications and specific procedures for personnel accounting, scheduling, planning, instruction, and information management. Activities will include lecture, discussion, and a variety of simulated and real design, analysis, and production problems.

EDN 563 Educational Environments (3)
Prerequisites: EDN 502, EDN 510, EDN 511, or permission from deparmtent. This course is deisgned to develop knowledge, skills, and abilities in the analysis, design, and change of physical and social environments in education. Contents will include design, organization, control, and effects of physical and social climates of schools and classrooms. Activities will include lecture, discussion, library research, and a variety of group and individual simulated and real design and analysis problems.

EDN 564 Politics and Policy-Making in Education (3)
A study of the theories, processes, functions, limits, alternatives, goals, and consequences of policy-making as the primary objective of politics in education; evaluation and analysis of policy-making at the local, state and federal levels of education; nature and dynamics of policy-making by local and state school boards, state legislatures and the federal government.

EDN 595 Special Topics in Education (1-4)
Seminars of varying duration and credit may be arranged for the study of special topics relevant to student needs not served by established graduate courses. Seminars of this nature may be offered only upon approval of the Director of Graduate Studies. A maximum of six semester credit hours may be counted toward degree requirements.

EDN 599 Independent Study (3)
Prerequisite: Fifteen semester hours of graduate credit and permission of instructor. Intensive study of topic in the student's area of specialization.

MASTER OF SCIENCE IN MARINE BIOLOGY

The University of North Carolina at Wilmington offers a program of study leading to a Master of Science degree in Marine Biology. The program is designed so as to fulfill three general student goals: (1) to prepare students for further graduate work leading to a Ph.D. degree elsewhere; (2) as a terminal degree program to prepare students either as professional biologists or as managers of coastal and marine resources who are trained to deal with contemporary problems in the environment; and (3) to be used by public school teachers to upgrade their effectiveness as classroom teachers. The curriculum of the program consists of three tracks: Marine Biology, Biological Oceanography, and Coastal Biology. Each track is designed to provide the necessary latitude to allow the student, in consultation with his faculty committee, to develop a program of study which will fit his own particular needs.

All students will share some basic needs, and each will need some specialized course work. All students in the M.S. program will need an in-depth knowledge of a chosen speciality, a knowledge of available resource materials, basic writing skills, and problem solving skills. In addition to these basics, students continuing into a Ph.D. program will need a greater depth of knowledge in their areas of specialization. The program and track requirements are listed in the following sections.

Degree Requirements

1. Programs leading to the Master of Science degree require thirty semester hours of graduate study. A maximum of 6 semester hours of credit may be transferred from another accredited institution. Grades earned on transfer work must be equivalent to "B" or better. A minimum of 24 semester hours of graduate study must be completed in residence.

2. The student must pass a competency examination in a foreign language: French, German, Spanish, or Russian. A computer language, i.e., PL/1, FORTRAN, or BASIC, may be substituted for the foreign language requirement upon the committee's approval.

3. The student must successfully complete a qualifying examination consisting of two parts: a written comprehensive examination based upon prior course work, and a comprehensive oral examination administered by the committee within two weeks of the written examination.

4. Each student will present a thesis, based on original research, acceptable to the committee, prior to graduation.

5. Each student must complete within five years of the date of the first registration for graduate study an approved course of study.

Requirements for the Marine Biology track:

A minimum of six hours from the following:
MBY 561 *Estuarine Biology* (3)
MBY 562 *Coastal Ecosystems* (3)
MBY 564 *Biological Oceanography* (3)
MBY 569 *Advanced Oceanography* (3)
and:
MBY 593 *Colloquium in Marine Biology* (1)
MBY 595 *Seminar in Marine Biology* (1)
MBY 599 *Thesis* (6)

A minimum of 16 hours of electives of which at least 12 hours must be in biology with at least 3 hours from each of the following categories: physiology, anatomy-morphology, developmental biology. No more than 3 credits of MBY 591 (Directed Individual Study) may be used.

Requirements for the Biological Oceanography track:

MBY 564 *Biological Oceanography* (3)
MBY 569 *Advanced Oceanography* (3)
MBY 593 *Colloquium in Marine Biology* (1)
MBY 595 *Seminary in Marine Biology* (1)
MBY 596 *Seminar at Sea* (1)
MBY 599 *Thesis* (6)

Fifteen (15) hours of electives of which at least 9 hours must be in biological topics. No more than 3 credits of MBY 591 (Directed Individual Study) may be used.

Requirements for the Coastal Biology track:

MBY 561 *Estuarine Biology* (3)
MBY 562 *Coastal Ecosystems* (3)
MBY 592 *Seminar at the Coast* (1)
MBY 593 *Colloquium in Marine Biology* (1)
MBY 595 *Seminar in Marine Biology* (1)
MBY 599 *Thesis* (6)

A minimum of 15 hours of electives of which at least 9 hours must be in biology courses. No more than 3 credits of MBY 591 (Directed Individual Study) may be used.

Deficiencies will be ascertained by the student's committee and will be remedied prior to graduation.

Graduate Program in Marine Biology

Course Descriptions

MBY 508 (Anthropology 350) Maritime Anthropology (3)
A cross-cultural comparison of past and present maritime populations from selected parts of the world. Emphasis will be placed upon the natural environmental settings and related cultural adaptions. Both intra- and inter-group interaction will be stressed as well. Three hours each week.

MBY 515 Neurobiology (3)
Introduction to nerve membrane biophysics and neutral circuitry. The general membrane equation is emphasized in the discussion of transmembrane ionic currents. The important features of a variety of vertebrate and invertebrate neural networks are also presented. Three hours each week.

MBY 525 Marine Microbiology (4)
Concepts of structure and function of microbes, nutrition, metabolism, adaptation, and genetics as related to the marine environment. The laboratory will center on techniques of studying microbes and their ecology, and the systematics of important micro-organisms. Three lecture and three laboratory hours each week.

MBY 530 Invertebrate Evolution (3)
Critical analysis of current theories on the origin of the invertebrates and on origins of invertebrate phyla. The course will include a review of the historical development of evolutionary thought concerning invertebrate phylogeny, both from a neontological and paleontological viewpoint. Relevant data from modern studies in embryology, larval development, comparative morphology, functional morphology and serology will be stressed. Each student will be required to prepare a summary paper on the status of knowledge for a selected invertebrate group. Three hours each week.

MBY 532 (Geology 432) Marine Biogeography (3)
Prerequisite: Credit in physical geography or in geology or consent of instructor. Principles and methodology underlying the study of the distribution of organisms in aquatic and terrestrial environments; description of modern global distribution patterns and their development by physiographic, climatic and evolutionary events of the past. Three hours each week.

MBY 538 Cytogenetic Methodology (2)
A laboratory course introducing the techniques necessary to study and analyze the chromosomes of a variety of organisms including plants and animals. One four-hour laboratory each week.

MBY 540 (Biology 465) Biochemistry (3)
Prerequisite: Organic Chemistry. Chemical properties and metabolism of amino acids, proteins, carbohydrates, lipids, and nucleic acids; enzyme kinetics; bio-energetics, regulatory mechanisms. Three hours each week.

MBY 542 (Biology 467) Biochemistry Methodology (3)
Prerequisite or *corequisite:* Biochemistry and consent of instructor. A laboratory course dealing with the techniques and methodology of modern biological chemistry. Topics include various types of chromatography and isolation and assay procedures for various biological molecules. One lecture and five laboratory hours each week.

MBY 545 Marine Physiology (4)
Introduction to physiological systems characteristic of marine vertebrates and invertebrates. Emphasis is placed on the mechanisms underlying osmoregulation, respiration, temperature regulation, digestion and movement. Three lecture and three laboratory hours each week.

MBY 550 Vertebrate Systematics (4)
Prerequisites: Two of the following: Ornithology, Herpetology, Mammalogy, Ichthyology. A detailed study of the processes of speciation in the vertebrates, including the theoretical and pragmatic approaches. Nomenclatorial procedures will be discussed. Three lecture and three laboratory hours each week.

MBY 551 Advanced Vertebrate Biology (2)
Prerequisite: Permission of Instructor. Individualized instruction in the identification, classification, and habitats of the terrestrial vertebrates of the coastal zone. This course will emphasize field methodologies and is designed to fill gaps in each student's knowledge of the classes of terrestrial vertebrates. Four laboratory hours each week.

MBY 552 (Biology 462) Deep Sea Biology (3)
The biology of animals inhabiting the deep sea environment off North Carolina. Emphasizes faunal zonation, abyssal zoogeography, high pressure and low temperature adaptations, reproductive strategies, origin and speciation in deep sea. Three hours each week.

MBY 553 Natural History of Intertidal Organisms (3)
A study of the strategies adopted by major invertebrate groups inhabiting the intertidal zone. Topics included are: a comparative analysis of the response of individual groups of organisms to the effects of wave shock; and substratum and exposure on beaches, tidal flats, and rocky shores. Field trips will permit the student to observe and identify relationships between vertical ranges of intertidal organisms and local biological and physical parameters that define zonation. An individual or group project on some aspect of recruitment, site preference, succession, or competition in intertidal populations will be required. Two lecture hours and field work.

MBY 554 (Biology 452) Mammalogy (3)
A study of mammals, emphasizing their evolution, taxonomic relationships, structural and physiological adaptations, and life histories. Laboratory sessions will include collection, identification, and preparation of specimens and observations of mammals in the field. Two lecture and three laboratory hours each week.

MBY 555 Methods in Sedimentology (4)
An introduction to the most important analytical techniques and research procedures that are currently used for studying sediments. Techniques included are: size analysis; grain shape; grain surface texture; textural analysis; compositional analysis; and chemical analysis. Two lectures and two two-hour laboratories each week.

MBY 556 (Biology 456) Ornithology (4)
An introduction to the life of birds. Emphasis will be on the identification, classification, evolution, ecology, and life histories of the birds of North Carolina. Three lecture and three laboratory hours each week.

MBY 557 (Biology 357) Herpetology (3)
A study of the biology of amphibians and reptiles of the world. Natural history, ecology, morphology, and taxonomic relationships are stressed. Two lecture and three laboratory hours each week.

MBY 558 Biology of Recreational and Commercial Fishes (3)
Topics included will broaden the student's knowledge of management of economically important marine organisms. The emphasis will be on fishes, but will include information on shrimp, molluscs, mammals and other marine species. Two lecture and three laboratory hours each week.

MBY 559 (Biology 481) Marine Invertebrate Zoology (4)
A field oriented course which provides in-depth ecological and taxonomic treatment of selected invertebrate groups. Three lecture and three laboratory hours each week.

MBY 560 Estuarine Biology (3)
A study of the physical, chemical and biological interactions of the estuarine area: the effect of currents and circulation upon biological and chemical gradients; the role of nutrients in organic cycles, primary and secondary productivity and standing crops; energy transfer, stability and stresses in marine communities; pollution indicator species and endangered species in the estuarine environment. A special emphasis will be placed upon analytical techniques in gathering and processing estuarine data and in evaluation of local estuaries with respect to contemporary management planning. Two lecture and three laboratory hours each week.

MBY 561 Barrier Island Ecology (3)
A survey of the dune forest and tidal marsh flora and vegetation. Topics will include descriptive, physiological and applied aspects of barrier island plants. Special topics include dune environment, halophytes, salt-spray effects, marsh energetics and nutrient cycling. Quantitative techniques will be used in characterization of island communities. Two lecture and three laboratory hours each week.

MBY 562 Coastal Ecosystems (3)
Ecology of the major plant communities on the Coastal Plain. Systematics, structure and functions of the coastal community will be emphasized. Specialized topics include nutrient flow, succession and environmental factors influencing coastal ecosystems. Biotic and environmental sampling and comparison techniques will be emphasized. Two lecture and four laboratory hours each week.

MBY 563 Physical Oceanography (4)
Dynamics and physics of the ocean with emphases on the physical properties of sea water, flow dynamics, and circulation. The laboratory will emphasize instrumentation, data collection, and analyses of marine dynamics. Three lecture and three laboratory hours each week.

MBY 564 Biological Oceanography (3)
Encompasses a spectrum of special topics on factors that control the

distribution patterns of marine organisms. The topics include: identification and evolution of marine biomes; seasonal, temporal and spatial trends in temperate marine environment; tropical vs polar marine productivity; temperature of water masses and biological implications with emphasis on gulf stream biology; pelagic and benthic community structure; marine food chain and trophodynamics; models of energy flow and budgets; biology of outer continental shelf; recruitment mechanism as influenced by natural and man-made causes. Special emphasis will be placed on methods of data gathering and theories behind advanced biological oceanographic techniques. Each student will specialize in a selected topic and will present a report at the end of the term. Three hours each week.

MBY 565 (Biology 458) Fisheries Biology (4)
Prerequisite: Ichthyology, one course in statistics, and consent of instructor. Advanced studies in the biology of fishes. Such topics as age, growth, foods, parasites, population dynamics, reproduction, migration, and economic pressures are covered. A technical report on the biology of a fish species is required. Three lecture and three laboratory hours each week.

MBY 566 Behavioral Ecology of Reef Fishes (3)
An ecological and ethological approach to the study of reef fish biology. Current theories and problems dealing with the ecological niche, competition, social systems, and population biology. Two lecture and three laboratory hours each week.

MBY 569 Advanced Oceanography (3)
Prerequisite: An introductory descriptive oceanography course. This course will consider mechanisms and dynamics of the ocean: the physical processes propelling oceanic currents, the reception and transmission of energy, and its influence upon living systems, statics and dynamics of waves, chemical distribution in the sea and their influence upon living marine organisms, dynamics of fertility and productivity in the marine environment. Two lecture and three laboratory hours each week.

MBY 570 (Biology 468) Planktonology (4)
Prerequisite: Invertebrate Zoology or consent of instructor. The classification, productivity, life histories, and interrelationships of planktonic organisms and a survey of the literature dealing with plankton. Two lecture and four laboratory hours each week.

MBY 572 (Biology 472) Marine Phycology (4)
An introduction to the morphology, life histories, and ecology of benthic marine algae with emphasis on special topics such as morphogenesis, ecotypic variation and speciation, phytogeography, or seasonal periodicity of growth and reproduction. Three lecture and three laboratory hours each week.

MBY 574 (Biology 475) Plant Taxonomy (4)
Prerequisite: Introductory Botany. Identification, classification, and phylogeny of vascular plants with emphasis on flora of southeastern North Carolina. Field trips, two lecture and four laboratory hours each week.

MBY 577 Marine and Estuarine Mycology (3)
Prerequisite: Mycology or equivalent. An in-depth survey of the mycoflora of oceanic and estuarine waters with emphasis on collecting and culturing techniques. An in-depth treatment of taxonomy and ecology of important fungal groups will also be given. Two lecture and three laboratory hours each week.

MBY 589 (Chemistry 375) Chemical Oceanography (3)
Sources, distribution, forms of occurrence, and reactions of chemical species in seawater. This course will emphasize estuarine reactions, dynamic equilibria, air-seawater and sediment-seawater reactions, and human impact on the oceans. Prior Geology 205 is recommended. Three hours each week.

MBY 591 Directed Independent Study (3)

MBY 592 Seminar at the Coast (1)
Participation in planning and conducting a series of field exercises in the coastal zone of North Carolina.

MBY 593 Colloquium in Marine Biology (1)
Investigation and discussion of selected topics and current issues through the interaction of students, faculty, and expert guest lecturers.

MBY 595 Seminar in Marine Biology (1)
Discussion of selected topics in marine biology.

MBY 596 Seminar at Sea (1)
Participation in pre-cruise planning and a biological oceanographic cruise to obtain practical knowledge on methods of sampling.

MBY 599 Thesis (6)

FACULTY

FACULTY

Louis Henry Adcock, *Professor of Chemistry*
B.S., M.A., Duke University; Ph.D., Louisiana State University.

William F. Adcock, *Associate Professor of Music*
B.S., East Carolina University; M.M., Northwestern University; further study, Ecole de Monteux and University of North Carolina at Chapel Hill.

Syed Shahzad Ahmad, *Assistant Professor of Political Science*
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David Bruce Allen, *Lecturer in Health, Physical Education and Recreation*
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John Michael Anderson, *Associate Professor of Business Administration*
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Robert J. Arway, *Visiting Professor of Philosophy and Religion*
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Saul Bachner, *Professor of Education*
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Deborah B. Babel, *Lecturer and Assistant Catalogue Librarian*
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Toni Thompson Barfield, *Lecturer in Nursing*
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Lilian B. Brannon, *Assistant Professor of English*
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Ralph W. Brauer, *Professor of Marine Physiology*
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William Jasper Brooks, *Associate Professor of Physical Education*
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Robert Tindall Brown, *Professor of Psychology*
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Thomas P. Brown, *Assistant Professor of Mathematical Sciences*
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Kathleen Jones Bulmash, *Assistant Professor of Political Science*
B.A., Brooklyn College; Ph.D., Graduate Center, the City University of New York.

Thomas Joseph Burke, *Assistant Professor of Business Administration*
A.B., Sacramento State College; M.B.A., University of Miami.

Richard Henry Burkhart, *Assistant Professor of Mathematical Sciences*
B.A., Reed College; M.A., Ph.D., Dartmouth College.

Christine F. Burkholder, *Assistant Professor of Music*
B.S., Pennsylvania State University; M.M.,University of Michigan; D.M.A., University of Southern California.

Grace M. Burton, *Associate Professor of Education*
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